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ESSAYS AND CASES.

Art. I.—Clinical Reports.

Notes of Cases, with occasional remarks. Arranged by the Editorial Committee.

Encephaloid Eye-Ball.

Mrs. M. A. J., of Wisconsin Territory, entered the *Cincinnati Eye Infirmary*, on the 22d of October, 1837. Her age was about 42. She related that several years before, she had received a blow on her right eye, the lids being closed at the time, which was followed by severe pain, and permanent blindness, though no great degree of inflammation supervened. The pain ceased, and she enjoyed tolerable health; but in the month of January, 1837, she was again seized with excruciating pain in the globe of the eye, and a small discolored spot appeared on the sclerotica, between the cornea and the inner canthus. The pain recurred in paroxysms, and very soon a tumour began to appear, where the spot had shewn itself. Its growth was rapid, but irregular. For awhile it would lie dormant, but when at night acute pain occurred, it would always be found sensibly enlarged the next morning. Its form was nearly cylindrical, and in a few months it projected far beyond the eyelids, and assumed a livid aspect. In this condition, about midsummer, a physician applied some kind of escharotic to its extremity, which produced a foul ulcer, followed by

repeated hæmorrhages. In October, when she applied to Prof. Drake, and was admitted into the Infirmary, it projected at least an inch and a half beyond the eye lids, with a diameter of nearly the same extent; but could be moved by the muscles of the eye ball, and did not appear to be attached to the socket. The lids, especially the upper, were tumid, and loaded with dark-colored blood. The eye ball was turned downwards and outwards, and completely hidden by the lower lid, which on being depressed near the outer angle disclosed the cornea, iris and pupil. Her general health was rather infirm; and she had occasional chills, followed by fever and great aggravation of pain in tumour, orbit and head.

All the essential symptoms of Fungus Hæmatodes being present, the question of the utility of the extirpation, was the only one which could be discussed. A consultation of the professors being held, it was communicated to the patient, that without an operation she would certainly die, and that the disease would probably be reproduced, after all that could be removed had been taken away. It was, also, explained to her that the operation *might* be followed by fatal inflammation of the brain. Under these discouraging circumstances, however, she chose to have it performed, but for reasons not connected with the disease it was deferred for three weeks.

When about to proceed to the operation, Prof. D. proposed to remove the upper eyelid, as being unsound, but was persuaded to limit the extirpation to the removal of the contents of the socket. This was done with a scalpel, ground to a circular, instead of a pointed extremity, so as to act on the principle of a spade, by which the danger would be averted, of piercing the roof of the socket, should it be carious or greatly attenuated, which, however, proved not to be the case; for all the parts connected with the socket, adispose and muscular, were healthy, except the optic nerve, which although cut as low down as possible, appeared to be unsound. The tumour was dissected by Prof. Gross, who made upon it the following report:

The entire mass, after it was divested of the muscles and cellulo-adipous tissue of the orbit, which were quite healthy, was two inches and three quarters in length, and five and a quarter in circumference, its weight being a little upwards of two ounces. The eye itself was of the ordinary form and volume, but was con-

siderably thrown out of its position by the morbid growth, which was of an irregularly oval shape, and sprung from the inner side of the sclerotic coat, near its junction with the cornea. This connexion, however, was rather apparent than real; for upon tracing the heterologous mass, it was evident that it originated in the retina, which had itself almost totally disappeared. The anterior surface was closely invested by the conjunctiva, which had a rough, fleecy aspect, and about its centre was an incrusted ulcer three-fourths of an inch in diameter, around which the parts were somewhat knobby, and of a bluish livid color. On cutting through this portion of the tumor, it was found to consist essentially of vessels, some of which had been opened by the ulcerative process, and formed the source of the frequent hemorrhages with which the patient had been latterly affected. Posteriorly the mass was of a much lighter color, as well as more soft, and presented that peculiar tuberoid arrangement so characteristic of encephaloid.

The cornea, although still transparent, was considerably diminished in size, and adhered firmly to the iris. The sclerotic part was of the natural thickness, extensively attached to the choroid, and of a yellowish buff color. The choroid itself had a speckled, brownish appearance, and there were some points at which it was completely disorganized. At one part, nearly opposite the diseased mass, a black layer of blood was found beneath it. The retina, as was before stated, was almost entirely gone; and, in place of the vitreous humour, there was a dense, solid, white mass, evidently the result of an effusion of fibrin. The anterior chamber of the eye was obliterated, and the iris was transformed, in great measure, into a substance resembling fibro-cartilage. The optic nerve, near its entrance into the sclerotic coat, was slightly enlarged, bulbous, and yielded on pressure a minute quantity of encephaloid matter. In conclusion, it should be stated that the lacrymal gland was preternaturally small, white, and indurated.

A considerable degree of nervous irritability, with vomiting, followed the operation, but was succeded by very little fever. The tumefaction of the eyelids was not greater than might have been expected. In a few days, a discharge of healthy pus came on, and in the course of two or three weeks the lids had contracted, granulations appeared, and the aspect of the parts was in all respects auspicious. She continued liable, however, to occa-

sional attacks of chilliness, nausea, epigastric sinking, vomiting and severe pain in the head and socket. For sometime after the operation the integuments of the right side of the forehead were considerably reduced in their sensibility. In the month of January she left the Infirmary, and at this time, March, her situation is not known.

In his remarks on this case to the Clinical class, Prof. D. justified the operation on the ground, that, although a reproduction of encephaloid structure generally, follows the operation, such is not the invariable result; and that the removal of the morbid mass might prolong the existence of the patient, by preserving her from its reactive influence on the constitution. Moreover, the disease in this instance appeared to be the offspring of a local injury, the tumor seemed to be without attachments to the periosteum, and the muscles were evidently not disorganized as they were obedient to the will of the patient.

The Professor remarked, that Fungus Hæmatodes is an exceedingly common disease in the Western states, more common, indeed, than carcinoma, (if we except that of the female breast,) and that it is by no means confined to children and young persons, as some European writers intimate, for that he has known many cases of it in persons upwards of 40 years of age; and lately saw Prof. Parker extirpate a large encephaloid tumor from the side of a man in his 56th year.

The Professor observed, that although this malady is generally regarded as of constitutional origin, he had seen several cases in which it was preceded by mechanical violence, to the part; but in these instances there might have been a constitutional predisposition.

In a subsequent number we shall make known the termination of this case. We have lately learned that Bromly, whose arm was amputated in the Cincinnati Hospital, by Prof. McDowell, on the same day in which Mrs. J.'s eye was extirpated, and whose case was reported in the last number of the Journal, has got well. It will be recollected that his disease was Fungus Hæmatodes o the elbow joint.

Ulceration of the Duodenum. Formation of a Hepatico-Diaphragmatic Pouch.

J. R. aged 68 years, had been throughout life subject to rheu-

matism, but was otherwise of a robust constitution till within a few years of his death. He then became infirm, but not confined; lost a portion of flesh, acquired a dark sallow complexion, a bloodless skin, with defective perspiration, torpid bowels, and a weak, intermittent pulse. In the month of April, 1837, he was suddenly seized, in the evening, with an excruciating pain *in epigastrio*—such as is usually denominated cramp in the stomach, attended with reduction of temperature, and diminution in the ordinary force and fulness of his pulse. Large doses of stimulant and narcotic medicines, with external epigastric irritation, afforded some relief, and produced a certain degree of reaction, with a fit of vomiting. He was bled, but his pulse sunk under the operation; his bowels were opened with cathartics. Much debility ensued, with occasional flushes of fever, cough and dyspnœa. After a few days, his parotid glands became swollen and indurated. At length a hiccup supervened, and continued to recur till his death, which happened on the 13th of May, nineteen days after the attack of epigastric pain and spasm.

Post-mortem Examination, 30 *hours after death.*

This was made by Prof. Gross, in the presence of the attending physicians, Professors Drake and Rives, and the following appearances were observed.

Complexion dark and muddy; body considerably emaciated; costal cartilages ossified; left lung much smaller than natural, and universally adherent, by old cellular bands, to the ribs, but otherwise sound. Inferior lobe of the right lung united to the diaphragm and ribs, and covered with small masses and globules of lymph, so soft as to be easily wiped off with the finger. Its parenchymatous texture was extremely engorged, of a deep flesh color, infiltrated with globules of pus, and emitting, on being cut, a large quantity of thin, reddish, frothy serocity. A considerable portion was hepatized; and white creamy pus exuded in small quantity from the bronchial tubes. About four ounces of straw-colored serum were contained in the right pleuritic sac. The other two lobes were sound, and of a light greyish tint. The whole of the right lung, it should have been observed, was pushed up as high as the fourth rib by the liver. Cartilaginous rings of the trachea and bronchia ossified and very brittle; mucous membrane of the right tubes of a fleshy red color, extremely injected,

with here and there a small ecchymosis, and filled with red frothy mucous.

Heart—Of the natural size and color, flabby and collapsed; coronary artery ossified for about three inches; walls of the left ventricle so soft as to break under the slightest effort of the finger; interventricular septum hypertrophous; fleshy columns sound; mitral valves covered with small specks of bone; semi-lunar valves of the aorta opake, wrinkled, and somewhat indurated; no remains of thymus gland.

Abdomen.—*Liver* of the natural size; about three-fourths of its anterior surface strongly adherent to the diaphragm; the adhesion extending about one inch beyond the longitudinal fissure, leaving the rest of the left lobe perfectly free and sound. On cutting through the diaphragm, the upper surface of which was of a dark color, and deeply injected, a flat circular pouch was discovered, a little more than six inches in diameter, formed by the organ just mentioned, and by the convex surface of the liver. This sac was capable of holding about twelve ounces of fluid, but was perfectly empty at the time of the examination. It was lined throughout, however, by a thick layer of lymph, of a yellow greenish color, from the intermixture, probably, of fœcal matter, which must have passed into it at different times from the duodenum, through an opening to which I shall presently more particularly allude. In cutting through this substance, where it covered the convex surface of the liver, the texture of the organ was found to be perfectly sound, excepting for about the fifth of an inch in depth, where it was somewhat softened, and of a dark bluish color. The outlet of this extraordinary pouch was formed by a small elliptical aperture, about five lines in diameter, situated at the anterior margin of the liver, nearly midway between the outer border of and the longitudinal fissure. This, after a tortuous course of about one inch and a half, communicated with the duodenum, by a circular opening six lines in diameter, with thick and well defined margins. The outlet here adverted to was seated one inch below the pylorus, on the upper wall of the duodenum, which, as well as the arch of the colon, adhered for several inches to the anterior edge of the liver, the coats of both tubes being perfectly healthy.

Gall-bladder concealed by dense cellular tissue, about the size of

a large hen's egg, and filled with thick, yellow, greenish-bile; ducts pervious. Œsophagus, stomach, small and large intestines, sound, excepting the descending portion of the colon; the mucous membrane of which was injected, and of a dark reddish hue; the result probably of chronic irritation.

Spleen very small, of a dark mottled hue, and of good consistence, with numerous globules of lymph on its outer surface, and a small plate of bone, evidently seated in the fibrous tunic, one inch in length by one third in width, and of a pale yellowish color; internal structure sound.

Pancreas, kidneys, and urinary bladder healthy.

Parotid glands both very considerably enlarged, dense, of a greyish, gristly appearance, and pervaded with purulent matter, collected for the most part into little abscesses, the largest of which scarcely equalled the volume of a hazel nut. The pus was white, thick, and tenacious, like that of a scrofulous lymphatic gland. The weight of the right parotid was one ounce and two drachms; of the left one ounce and one drachm. The substance of the glands was scarcely any injected, a small vessel being only here and there perceptible. The swelling came on ten days before death; and, what is remarkable, the patient never complained of the slightest pain.

The interest of this case turns upon the successful efforts of nature to form a cyst or pouch between the liver and diaphragm, for the purpose of restraining the spread through the abdomen of the contents of the duodenum. A question presented is, whether this pouch was formed before or after the commencement of the epigastric pain? The perforation of the bowel might have then occurred; or it might bave happened long before, and the violent spasmodic pain which ushered in the attack might have been the consequence of the passage into it from the bowel, of something unusually irritating.

The morbid state of the right lung would seem to have been clearly referable, to the contiguity of that part to the inflamed diaphragm; while to the affection of the latter organ, the hiccup may be fairly ascribed. The suppuration of the parotid glands was, probably, an anomalous effect of calomel taken during his illness.

FATAL APOPLEXY WITHOUT ENGORGEMENT OR EXTRAVASATION.

C. C., aged 44, an outstanding patient of the Cincinnati Hos-

pital, arrived in the city, in a state of very reduced and deranged health, from bilious fever in the summer of 1837, on the shores of the Gulf of Mexico. When Prof. Drake was called to see him, February 4th, 1838, no intelligible account of his past situation could be obtained, as his mind was enfeebled and his association of ideas considerably impaired. His pulse was upwards of 100, and his complexion and general aspect indicated a constitution broken down by the fever of the preceding summer, relapsing, occasionally, upon him during the autumn and winter. His bowels were said by himself not to be costive, but this proved to be incorrect. His abdomen was distended. A prescription was made, and he was left for the night. Before entering, however, on the use of any thing, he walked from his room in the tavern, through a hall, to the supper table, at which he seated himself, but, before beginning to eat, fell senseless on the floor, and was carried to his bed. Prof. D. being summoned, found him in a state of deep insensibility, with stertorous respiration, and a pulse more than 120 in a minute. Venesection by a large orifice was immediately employed, and he lost nearly six pounds of blood, before his pulse began to flag. Large doses of calomel were then washed down his throat; enemata administered, and external irritants applied. He was bled again, purged very copiously, blistered, and, finally, under an apprehension, that the disease might be of miasmatic origin, according to the views of Dr. McCullough, the sulphate of quina was given in liberal doses. In about 36 hours his sensibilities were, to a certain degree, restored, and he began to speak. His left side had more power and mobility than the right. At length his mind became greatly excited—he saw external dangers—trembled with fear—and was occasionally excited with anger. Finally, convulsions came on, and after they had been many times repeated, he fell into a state of insensibility, and expired on the 4th day from the attack.

On the afternoon of the same day, the body was examined by Prof. Gross, who found the abdominal viscera sound, except a little engorgement of the spleen; the brain and its membranes unengorged, and without extravasation; but there were about two ounces of serum in the ventricles and at the base of the organ. This had probably been effused during the attack.

Art. II.—Alterants.

An Essay on Alterants. By John P. Harrison, M. D., Professor of Materia Medica in the Cincinnati College.

The term alterant, or alterative, is derived from *altero*—to change—and is employed to designate a mode of operation, rather than a particular medicinal article. Thus we familiarly talk of the alterant action and results of the various preparations of mercury; but that great agent is still arranged in our works on materia medica, under a different head. There seems to attach to the mode by which the alterant agency of mercury is effected, much of that mysterious influence upon which physicians, in former periods of medical history, were so fond of dwelling. The allusion has reference to the opinion universally entertained, in the days of an exclusive humoral pathology, that the alterant power of a medicine was resident in its capacity to accomplish some change in the circulating mass, by which mutation of the morbid state of the blood, the curative results were obtained. Whilst we retain the name of alterant, we attach not the slightest importance to the philosophy of the mode of operation, which was once so fashionable in the profession. On this point we desire to avoid all indefinite, intangible abstractions;—plausibilities are not to guide us in any matters pertaining to a physical science. Medicines operate as relative agents, and to appreciate their modes of operation, we must contemplate the varying conditions of the animal economy in which they are exhibited. To aver that alterants change the chemical constitution of the blood, or that they modify in some way its vitality, or that they correct morbid materials, by direct contact, in the current of the circulation, or that they reach distant parts by being absorbed, and by the channels of the circulation are enabled to exert their direct local action on diseased organs, may be a very facile method of ridding ourselves of all necessity for additional inquiry into the steps of the process by which the ultimate remedial influence is made to bear upon morbid conditions of the functions and tissues. By as rapid a march of conclusion we may refer the whole thing to sympathy, and thus without any more pains-taking in our investigation of the matter, we satisfy our minds that we have arrived at truth,

when we have only imposed on ourselves a crude and hasty explanation for a minute and faithful enunciation of the phenomena.

In prosecuting this discussion, the first point of inquiry, to the elucidation of which we shall direct our attention, is, not *whether* alterants act by a mechanical force, or a chemical re-agency, exerted upon the blood, nor *whether* they operate merely by sympathy, but *how* they influence the vital powers—*what* therapeutic results flow from their judicious administration, and *in what* morbid states of the organism they are applicable. We desire to come up to the scrutiny of this interesting practical point divested of all partisanship—if ever such a feeling occupied our minds—and to give due weight to every accurately observed and faithfully recorded fact, which bears upon the question. And whilst we are determined to treat it as a grave practical question, we wish to allow no prejudices of the past, nor prepossessions of the day, to annul the decisions of a sound and authentic experience. It is obvious, upon the slightest reflection, that there exists no kind of mechanical relation between the remedies which we employ as alterants, and those states of the body in disease for the cure of which we prescribe them. And were we to concur, to the fullest extent, with the views entertained by former pathologists, that diseases were induced by alterations in the shape and size of the globules of the blood, still we could not perceive upon what ground an alterant was given, unless it were prescribed to act by a direct mechanical force upon the blood. But such a solution would ill comport with the spirit of an inductive logic. And as it respects the chemical theory of peccant matters, and of their neutralization in the blood by alterants, the same remark would obtain.

I. *How do alterants influence the vital powers?* First, in a way that is not accompanied by sensible evacuation; secondly, in a way which does not disturb the regular procession of the functions and actions of life; and thirdly, in a way which is subversive of anormal, or deranged action, by a process of either suspension, alteration, or substitution of action.

The principal idea attached by the profession generally to the term alterant is that of a curative power exerted by any remedial article, independent of any displays of its sensible action, by evacuation, or otherwise, on the system. An alterant is given with this indication in view—to so modify, change, or interrupt the

morbid processes going on in the structures of the body as to bring about a solution of the disease, without disturbing the animal economy by any urgent solicitation of influence. It cannot, however, be denied that there may arise in the course of the administration of alterants symptoms of disturbance in one or more of the functions of life. Thus when mercury is given as an alterant, we may have several modes of its activity displayed, independent of its alterant agency. The simple excess of its peculiar alterant power may create extraordinary excitement in the glandular system. The salivant action of mercury is separable from its simple alterant action. But the salivation resulting from the remedy is neither a proof of the injurious activity of the mineral, nor of its curative power. The kind of salivation induced is more to be depended on than the degree of irritation created in the glands of the mouth. Still, as the general capabilities of mercury in the arrest of disease is not measured by its salivant influence, we may adhere to the definition, and insist on the precision of our view of the modus operandi of an alterant, when we contend that it is an agent of the materia medica, which acts curatively, independent of any sensible disturbance in the functions of the body. Primordially, the action of an alterant is upon the vital properties of the system, in virtue of the relation which exists between the state of those vital properties, and the article administered.

It is only by a careful generalization from a great variety of well conducted trials, and the results of those trials, in diversified morbid states of the living human body, that we derive a just experience of the virtues of any medicinal substance. From deductions, drawn from a wide field of experience in the profession, we are warranted in referring the peculiar power of alterant medicines to a special medication which they create. We do not believe in specifics of any sort,—not that certain remedies bear no direct or special relation to certain organs, or certain conditions of those organs, but because there can be no such thing recognised in scientific medicine as a disease, abstractly considered. All diseases consist in certain conditions of the organism. To suggest that a remedy is a specific for a disease is to do violence to the first principles of a just pathology. Alterants act in a special manner on certain organs, and on certain states of those organs. Their action is one that is independent of sudden exaltation, or immedi-

ate perceptible depression of the functions of the organs upon which they exert their activity. It is an activity, not revealed by a more rapid circulation quickly created in the system, nor by a direct augmentation of vital force in any part of the body, nor is it an activity that shows itself by a subversion or disturbance of the accustomed actions of life.

Incidental, or consequential, to the power possessed by alterants in so modifying the morbid conditions of the organs as to subvert anormal processes going on in them, there are various evidences of a more energetic and harmonious movement established in the vital endowment of the organic structures. These evidences of a renewal of the healthy state of the parts originally diseased, or of the sympathizing portions of the frame, should be placed among the collateral and resulting phenomena, which accompany, or spring from, the primary alterant action.

The therapeutical action of alterants is evinced, 1st. by suspension of the morbid phenomena; 2d. by the superinduction of a new action; and, 3d. by substitution of action. Let us illustrate these points. All the morbid phenomena witnessed in the human body may be arranged under the respective heads of constitutional and local, as respects the extent of the action originating them; and of functional and structural, as regards the kind of action producing the phenomena; and acute and chronic, in reference to the period of their duration.

A constitutional affection often gives rise to local diseases, and local disordered action frequently produces constitutional derangement.

Functional disorder may exist without lesion of structure; but often structural changes are induced by disordered function. Mr. Abernethy seems to limit the use of alterants to their utility in rectifying vicious states of the chylopoietic viscera, but Sir Wilson Philip has extended their interference to cases of functional and structural diseases of various important tissues and organs.

The action of alterants is often seen in suspending morbid states, and thus permitting the powers of health to resume their wonted condition. This we have often exemplified, after the exhibition of minute doses of calomel in deranged conditions of the alimentary tube. The same mode of operation is evinced by minute doses of corrosive sublimate in diseases of the skin, and by other

mercurial preparations, when given in small quantities, in affections of the various organs. The gentle, quiet, and undisturbed curative interposition of alterants, in many functional and structural affections, to be hereafter noticed, depends upon the ability of this class of medicines to suspend morbid processes.

The therapeutical advantages to be secured by alterants is further seen by their power in arresting diseased actions in consequence of the modification which they impress on constitutional and local, functional and structural, acute and chronic affections.

In the constitutional treatment of local disease, we often proceed upon this recognized capability in our alterant remedies. Thus in iritis, in hepatitis, in red hepatization of the lungs, we administer mercury in order to produce an alteration of the action giving rise to the deposition of coaguable lymph. Iodine is given in strumous affections, with a similar indication in view. Arsenic is administered in some diseases, with a like intention.

Substitution of action is another mode in which alterants act in the eradication of disease. When we produce a mercurial impression to cure fever, we substitute the action of the remedy for that of the disease. When we create a strong impression upon the functional activity of one organ, such as the salivary glands by mercury, or on the kidneys by hydriodate of potash, we bring into requisition a subsidiary action to aid the other two modes of agency exerted by alterants. There is, however, a manifest limitation to this last mode of operation. If it precedes, or surpasses, the other methods of action instituted by alterants, our final design may be frustrated. The action of substitution, the metaptosis, or metastasis, of the older writers, is often exhibited in disease. And the therapeutist will avail himself of this law of morbid action to substitute an artificial, definite, and controllable constitutional action, for one that is anormal, unlimited, and not corrigible by any power of the system.

These three modes in which alterants exert their benign control over disease are often seen conjoined in the effects brought about by our greatest alterant, mercury. But these several influences exerted by mercury, according to its different preparations, and extent of application, should not be confounded. There is a gradual alterant influence exercised by very minute doses of milder preparations of mercury. And there is a more energetic

power displayed by the proto-chloride, and the oxides of the metal, when pushed to a full issue, which we can never bring about by the stronger preparation.

When we wish to secure the full effects of the two first modes of agency of alterants, that of suspending morbid action, and that of inducing a new action, we should guard against a powerful local impression. Remote changes do not readily ensue upon the exhibition of alterants, when the organ with which our remedy is brought in contact feels its direct impression. Nor should we persist in the use of an alterant when any sudden irritation, or disturded movement, succeeds its introduction into the stomach. If we give mercury, iodine, or arsenic, as alterants, and find that our medicine nauseates, or purges our patient, we must desist from the employment of it. And if after a few days, constitutional irritation arise, or the mouth becomes very sore, or pain arises in the abdomen, we must cease the use of the article. Alterants act often as local remedies. We frequently exhibit small doses of calomel in deranged conditions of the mucous tissue of the intestinal canal, to alter morbid action set up in that surface. In dyspeptic affections, ipecacuanha is often employed with a similar design. Iodine is used as a local remedy, to disperse grandular enlargements.

Alterants are either anti-inflammatory and anti-febrile, or tonic and exciting. Mercury, ipecacuanha, and tartar emetic are often made available to the solution of febrile and inflammatory diseases.

Iodine is in possession of powers of a tonic and exciting kind, in connection with a special alterant agency.

Arsenic is not a tonic in any just sense of the term, but is an exciting alterant.

II. *What are the therapeutical results which are seen to arise upon a judicious administration of alterants?*

Diseases are, we have said, either constitutional or local; that is, they affect either the whole organism, or they affect only portions of it. In constitutional diseases alterants have achieved their most conspicuous curative triumphs. The dominion exercised by alterants over morbid states of the general system has been attributed to the direct modifications which they are capable of imparting to the molecular movements of the blood in the termi-

nal branches of the vascular apparatus. By others, their controlling influence has been ascribed to their primary operation upon the blood; and according to the views of some eminent physicians, their primary impression is made upon the nervous system, and by sympathy this impression is radiated to all parts of the organism. We candidly confess, that we know but little about the manner in which they induce, or bring about, those curative sequences which we every day witness after their exhibition. That alterants exert a strong modifying influence upon the capillary system, we are ready to admit. The modifications of secretory function which follow their use, are evidence of their salutary office in morbid conditions of the capillary system of the body. The increased temperature of the surface, with an expanded pulse, and a better hœmatosis, are proofs of their power on the blood, and the moving forces of the circulation. The abatement of constitutional irritability, and the mitigation, or removal of deranged sensations in different parts, such as the head, chest, abdomen and limbs, by their employment, demonstrate that alterants act on the nervous, as well as general vascular and capillary systems. The direct interference of mercurial action in putting a termination to fever and inflammation, shows us, conclusively, that we must not take any exclusive, restricted view of the modus operandi of the great alterant of the materia medica. Why should we so keenly contest the comparatively unimportant question of the introduction of alterants into the current of the circulation. Admit for a moment that mercury, iodine, tartar emetic and arsenic do pass unaltered into the blood. The question is still unresolved, why they exercise such a diversity of therapeutical actions. These ultimate facts are admitted on all hands—that no two efficient substances in the materia medica act alike—that one article displays a peculiar aptitude to fulfil one indication—and whether we admit the truth of the position or not, that they do veritably penetrate the barriers set up by nature for the exclusion of foreign matters into the vital fluid, we all must come to the same conclusions, derived from an experience of the benefits flowing from the use, and of the injuries apt to spring from the abuse of these our most energetic medicines.

When employed within the boundaries of a gradual and gentle medicating influence, alterants cannot be said to interfere with the

ordinary functions of the economy. Iodine, given in small doses, quickens the appetite, and tends to the production of a more successful nutritive secretion. When pushed to the extent of superinducing *iodism*, as it has been called, when symptoms of gastric and constitutional irritation arise on its administration, rapid emaciation will ensue. Mercury and tartar emetic, when given in minute quantities, do not disturb any of the functions; but when a decided constitutional agency is exerted by them, we have, with a more redundant emission of secretory products, a dimunition in the nutritive depositions of the system. Arsenic evidently lessens the tone of the stomach, but acts by imparting excitement to the cutaneous vessels; but this excitement is essentially different from a mere exaltation of the physiological condition of the dermoid tissue. It is an excitement subversive of certain chronic ulcerative and eruptive affections of the skin, which are not amenable to a simple increase of physiological excitement.

III. *Therapeutical applications of Alterants.*—In constitutional maladies, or in local disorders, connected with constitutional derangement, alterants are most frequently exhibited. Constitutional diseases may be either acute or chronic, febrile or inflammatory, cachectic or scrofulous.

Constitutional disturbance may produce local disease, or be induced by it. In the majority of chronic complaints, there is the precedent existence of disordered function in the stomach, duodenum and liver. Sometimes disordered function commences in the skin or kidneys; but there are few cases of a decided, predominant, primary functional irregularity of either the skin or kidneys. The latter organs are so isolated from external causes of disease, that they seem almost incapable of originating morbid action. The renal function is subsidiary, and in part vicarious, of the office of the skin, and is in close dependency to the chylopoietic viscera. Deranged digestive function is generally the source of irregularities in the functions of the kidneys.

The brain, in civilized society, is unduly excited, and liable to disordered function, which may precede changes of structure in the cerebral mass. But the brain rarely suffers abiding mischief unless the functions of the abdominal viscera become disturbed. In this connection we have not an exclusive reference to those

kinds of disease which are detectible upon a slight examination of the functions of the sub diaphragmatic viscera. The brain, lungs, abdominal canal and subsidiary organs, and the kidneys, may each become functionally disordered, and finally diseased structurally, by some general diathesis, of either an acute or chronic character. Idiopathic fever we hold to have a substantive existence. Its series of phenomena have been well delineated by Dr. Southwood Smith, and to his able work we would refer for an explicit and satisfactory exposition of those lesions of innervation, circulation, secretion, and of nutrition, which occur in fever. Struma is a constitutional affection, not a disease of any one allotment of the tissues, such as the lymphatic system, but a morbid condition of the constitution, which is almost omnipresent; for it is liable to seize upon nearly every organ and texture of the entire body.

We cannot trace the origination of this malady to any one department of the tissues; nor can we localize it primarily in the digestive apparatus, as some distinguished writers have done. The venereal disease is another constitutional affection. Mercurial is another. Gout and rheumatism, especially when hereditary, are clearly constitutional maladies. In all these general, or constitutional diseases, we employ alterants. And in the treatment of those topical affections, which are grafted upon these different diatheses, we call into constant requisition alterant remedies. In acute, as well as chronic, inflammatory complaints, alterants are liberally employed. In arachnitis, peritonitis, pneumonitis, and various other inflammatory diseases, we avail ourselves, after free sanguinous depletion of the alterant agency of tartar emetic and calomel. The power which tartar emetic possesses in suspending febrile and inflammatory action is clearly dependent upon an alterant, and not upon a contra-stimulant agency. The tolerance of the stomach for the remedy, and its very limited sensible action in producing evacuation of any kind, show us conclusively that it exerts a special alterative influence upon the morbid processes set up.

Fordyce, in his work on fever, attributes the beneficent effects of minute doses of tartatized antimony in fever to its febrifuge operation, which he asserts is entirely separated from its evacuant

properties. "Preparations of antimony and ipecacuanha, administered so as not to produce vomiting, bring on appearances similar to those of crisis in fever. When the stomach in fever will bear but a very small dose without producing sickness, (as one-fifth or one-sixth of a grain of tartar emetic, for instance,) the author has rarely found that any critical symptom has been produced." Such is the language of this distinguished author, who contemplated fever with an eye of penetrating discernment, and who has given us a most graphic and faithful delineation of its symptomatology; but whose treatment partook largely of the expectant method.

Dr. Chapman, in his Materia Medica and Therapeutics, entertains a similar opinion in reference to the powers of antimonial preparations in fever. He thus speaks, in relation to the administration of this remedy in fever:—"Medicines seem to do good in the cure of fever, by exciting their own peculiar or specific action. When they disorder the stomach by sickness, they depart from this, and if they do not act as poisons, always become nugatory, or more or less mischievous. Nausea, by whatever means induced, is not, in itself, a salutary effort, nor does it ever dispose fever to a crisis, or favorable solution."

We cannot go with Dr. Chapman to the extent of his views respecting the induction of nausea. We believe that when the febrile action is high, the production of nausea by tartar emetic, instead of proving nugatory or mischievous, exercises a favorable control over the irregular and disordered excitement of the system.

Marryatt, an eccentric physician, who published a small treatrise on therapeutics, the 21st edition of which was printed in 1790, thus testifies to the alterant action of antimony in fever. "Any fever may be soon extinguished by the use of the following powders:—take of tartarized antimony five grs., white sugar (or nitre) 3i; let them be well rubbed in a glass mortar, and divided into six powders; one to be taken every three bours, notwithstanding the nausea the first may possibly occasion. If these are taken (which is commonly the case) without any manifest inconvenience, let there be seven grains in the next six powders; and in the next ten. Here I beg to retract what I said in some former edition of this work, viz. that till sickness and vomiting were ex-

cited, this noble medicine was not to be depended on. For I have since seen many instances wherein a paper has been given every three hours, (of which there has been ten grains in six powders) without the least sensible operation, either by sickness, stool, sweat, or urine, and though the patients had been unremittingly delirious for more than a week, with subsultus tandinum and all the appearances of hastening death, they have perfectly recovered without any medical aid, a clyster every day excepted. I have lately seen a great many cases similar to the above, and the tartarized antimony has invariably produced the same effect."

The combination of small doses of calomel and tartar emetic, with the nitrate of potash, in fever, and in the phlegmatiæ is of superior excellence in bringing about a reduction of the force of morbid action, and in arresting lesions of structure in the important organs. The excitement must, however, be brought down, when intensely exalted, by the lancet and other depletory means, before this combination can be made to secure the desired alterant result. The restoration of the secretions of the liver, skin, and kidneys, is one of the most signal manifestations which we witness, as the incidental and consecutive phenomenon, arising upon the use of the above combination. This triple union of articles, so decidedly alterant, does not owe its valuable febrifuge and anti-phlogistic properties to the evacuations which may follow its exhibition. We have already declared our conviction, that alterants are in possession of a three-fold mode of agency;—the power of restoring the secretions exerted by the combination referred to, is collateral to the power of suspending morbid processes, and of creating an altered action. The pulvis antimonialis and ipecacuanha possess alterant properties inferior to tartar emetic in febrile and inflammatory seizures. But either may be advantageously given in certain forms of reduced febrile and inflammatory excitement.

When there is an obstinate persistence of fever, or of acute inflammation, threatening the destruction of some vital portion of the system, by the supervention of a rapid disorganizing change in the structure of the parts affected, our final resort is to mercury. Speculative plausibilities may safely be indulged in as long as they do not cloud our discrimination of disease, and intercept the full application of decisive measures for the relief of the sick. But

let the ultraist in medicine beware how he decides *a priori* that fever is a simple and easily governed form of morbid action, dependent upon a primary inflammation of some viscus, and that to arrest fever, all the physician has to do, is to ascertain the point of original disturbance, and subdue the disordered state of that suffering organ. Fever is a very complicated affection, and is by no means amenable to any exclusive mode of medication. But of all the remedies which chemical science has conferred upon the art of healing, there stands no single article so pre-eminently endowed with a diversified capability of curing disease as calomel. Assuredly no remedy, with which we are acquainted, exerts a thorough alterant agency equal to this great medicinal substance. When we declare that its powers are unique and unrivalled, we only embody the general testimony of the profession in its favor. No medicine is as frequently appealed to in the southern and western parts of our country, for the cure of fever, as this effective and common preparation of mercury. And although its friends have often proved its worst foes, from the misguided and indiscriminate manner, and abusive extent, in which they have exhibited it, still it survives the assaults of its enemies, and the perverted applications of its idolatrous admirers, as one of our surest, most decisive, and effective agents in the cure of severe febrile and inflammatory attacks.

Dr. Farre, in his interesting communication, addressed to Mr. Travers, contained in Cooper's & Traver's Surgical Essays, gives the following suggestions on the therapeutical action of mercury: "Whilst the principal tendency of the series of remedies, which we comprise under the received term, anti-phlogistic, from general blood-letting downwards, is to diminish the force of the heart and arteries; it is in a peculiar manner the operation of mercury on the whole capillary arterial system to change its action, but not indefinitely. I had been led, from repeated observation of the adhesive inflammation of various textures being cured by the mercurial action, to receive it as one of the *general laws* of its operation to change the arterial action on which the effusion of coagulable lymph depends, and consequently to arrest all the subsequent changes which flow from this process."

This explanation of the modus agendi of mercury, we think, is not to be taken without some qualification and abatement. For

mercury will, when unduly urged, often create an inflammatory irritation, in which coagulable lymph may be poured out. That mercurialism is productive of a species of constitutional disturbance, involving both the nervous and vascular systems, we see exemplified every day. The alterant powers of the remedy may be exercised without this frequent accompanying disturbance of the constitutional energies.

Mercury may be employed in acute as well as chronic maladies, in such a way as to accomplish all its curative ends with little or no sensible evidences of its alterative agency. This point, we confess, is not entirely under our mastery; for often, very unexpectedly to us, the severe salivant and perturbating effects of the remedy are revealed, after the corrective operation of it on the disease has been attained. In the treatment of ordinary fevers, of inflammations of the different organs, and of syphilis, there is no necessity that mercury should be pushed to an urgent and intense impression on the system. In proportion to the aggravation of the deranged and perverted actions set up in the system, and its component tissues, must be the boldness and decision of the practitioner in the use of mercury. But a sore mouth does, by no means, constantly attest the beneficent power of the remedy upon the constitution; for a misplaced and mischievous inflammation may occur in the mucous coat of the cheeks and fauces, in cases of disease in which a mercurial action has been attempted. The practical advantages of mercury in acute affections flow from its excellence as a promoter of the secretions of the whole secrenent organs of the abdomen, as well as from its superior alterant operation in arresting disordered function and structural changes. In the three great splanchnic cavities, the head, thorax and abdomen, inflammation is often lodged. These containing cavities, are filled with viscera, which are liable to various degrees and kinds of derangement; and the adjuncts, or investing and interposed tissues of these important viscera, are likewise often the seat of severe morbid processes.

Lesions of secretion and lesions of nutrition often destroy life by encroaching on the integrity and vitality of these organs. Thus we are taught by pathological anatomy, that effusions of pus, serum, and coagulable lymph are the frequent terminations of inflammations in the brain, thoraric viscera, and abdominal organs.

And thickening, induration, softening, and ulceration, are often seen as the modes in which the severe morbid actions of these parts come to a disastrous conclusion. The alterant powers of mercury are never to be overlooked in our treatment of such cases of disease. This medicine is often competent to reach and subdue such affections; and although not always successful in the employment of it, yet there remains a large residue of certainty and effectiveness in our experience, after the most ample deductions for incorrigible cases, as to justify and embolden us in the further use of the remedy.

We wish not to be misunderstood on such a grave practical point as that under consideration, and we therefore distinctly state, that we place the use of tartar emetic and mercury, as alterants, as subsidiary and co-operative to the general and topical evacuations of blood, and other methods of reduction, in severe febrile and inflammatory complaints. But after a reduction of the moving forces of the circulation by our evacuant remedies, we advert, with strong hopes of a happy issue, to the exhibition of these excellent medicines. Fever, inflammation, and syphilis have been often cured without any alterant. But this affords no sound reason for their judicious employment, as we are well convinced, that on the ground of an enlightened and humane expediency, it would not be proper to pretermit their administration.

In chronic diseases, alterants are chiefly employed. The extensive sway exercised by the chylopoietic viscera, in inducing disordered states of the thoracic viscera, has long been recognized, and made the basis of therapeutical interference. The encephalon is likewise very often brought into a morbid condition, by the disturbing influence exerted upon it by abdominal irritation. The general nervous system seems peculiarly alive to the abnormal actions going on in the organs of nutritive life. The skin and kidneys are, as we have already observed, often thrown into morbid conditions by the disordered functions, or structural changes, of the chylopoietic viscera.

We will bestow a brief consideration on the related diseases of the three great containing cavities, and deduce from our examination of the connections and modes of communication, of the morbid actions of the encephalon, thoracic viscera, and abdominal organs,

some inferences respecting the exhibition of alterants in such related affections.

Diseases, generally, may be related, 1st, by predisposition; 2d, by etiology; 3d, by the seats they occupy; 4th, by extension; 5th, by remote changes; and, 6th, by conversion, or substitution.

1. Predisposition may be either hereditary, acquired, ætal, or sexual. That many chronic maladies, affecting different parts of the system, have their substratum in the hereditary proclivity, or tendency of the constitution, is universally admitted. Struma is a disease of transmission from parents to children; and such is the strong bias to this peculiar form of morbid action in some families, that when any other kind of disease is established in the system, that new form of morbid action is soon modified by the previous existing tendencies of the organism to scrophulous derangement. All the organs and tissues are brought under the dominion of this strong predisposition; and no matter what species of anormal movement arises in the system, the subsequent phenomena partake much of the nature of this strumous diathesis. Tubercular deposits often occur, in such instances, in various parts of the body.

The same relation exists between affections of the brain, where a hereditary predisposition reigns in different members of the same family. Chorea, epilepsy, and madness are thus related. One member of a family will have chorea, one epilepsy, and another madness, or there will be an alternation of these affections in the same individual. Dr. Parry, of Bath, has given some very apposite instances of this kind in his work on pathology, and in his posthumous writings, published by his son, others are communicated.

Acquired predisposition is as familiar to the eye of the experienced and observant physician as a hereditary tendency to disease. The tubercular cachexia may be hereditary, or it may originate from modes of living. A predisposition to phthisis pulmonalis is often generated by a too rigid and abstemious regimen. During the prevalence of the epidemic cholera, we knew persons who brought on a fatal tendency to a tubercular formation in the lungs by their pertinacious adherence to a course of living too reducent and attenuating.

Paludal exhalations induce in man a state of predisposition to

certain forms of febrile disorder. This state of predisposition is called by some authors the latent period; by others, the stage of incubation, and may be regarded, pathologically, as a stage of formation, in which the system lies under the power of a remote cause, without sensible disturbance of its powers; or if not entirely dormant, the morbific agent has not acted so energetically as to evolve urgent and well marked febrile phenomena. When brought under a predisposition to bilious fever, there exists an assimilating character about the system, which blends hepatic derangement with every morbid action, however induced, that may be set up. This is exemplified in cases of pleural inflammation in persons living in a miasmatous district of country—the pleurisy is invariably complicated with symptoms of bilious fever. So familiar is this relation of diseased actions, that we designate the complication by the very popular title "bilious pleurisy."

Age and sex both produce certain predispositions, which we cannot notice with particularity.

2. The causes of disease induce intimate relations between morbid affections. The cause of epidemic maladies is some poison existing in the atmosphere. This agent acts on the vital endowment of the system, not simply as an excitant, or as a depressant, but a modifier of the living energies, perverting their normal operation. The related diseases springing from the impression of marsh miasmata, are frequently seen among us. Ague, mild remittent, inflammatory, and congestive bilious fever, with dysentery and hepatitis, are related to each other by paternity.

3. Diseases are related to each other by the seats occupied by them. An inflammation in one part of a mucous tissue, in virtue of the connection existing between the entire mucous surfaces, is very apt to spread to other portions of the same structure. And in rheumatism there exists a tendency in the disease to shift from one part of the fibrous system to another; and in consequence of this law of pathological action, the heart often becomes the seat of the transferred inflammation.

4. Diseases are related to each other by a pathological law of extension. The direct nervous communication existing between organs, their vascular relation, their functional union, and their contiguity to each other, are elements which constitute the law of extension, or epigenesis, in diseases.

5. Diseases are related to each other by conversion. Substitution of morbid action may arise in several ways. An irritation existing in the chylopoietic viscera may induce irritation in the lungs; this irritation may then cease, and the secondary, or resulting malady, pursue its fatal march. Or a morbid action may be suddenly suppressed in one part, and a diseased state of another part rapidly spring up. This we often see in the sudden retrocession of eruptive maladies.

6. Diseases are related to each other by remote changes. Thus a morbid state, having affected one part at one time, is disposed, in some persons, to seize on other parts, at another time. Hemorrhoids, hemoptisis, diarrhœa, and cutaneous eruptions, succeed each other in some persons. Dropsy, followed after a short time by rheumatism, and that succeeded by gout, have been seen. "In several instances," says Dr. Parry, "I have seen fits of epilepsy wholly superseded by those of gout. In one patient, the succession, at somewhat remote periods, was gout, mania, and, at last, fatal epilepsy."

In conducting the treatment of chronic affections by the administration of alterants, it behoves us to keep in view these relations and connections of morbid action. The empirical employment of any class of medicines is most earnestly to be avoided by the enlightened physician. No arbitrary juxta-position between the name of a malady and its appropriate means of cure should exist in his mind. In our endeavors to arrive at just conclusions in reference to the true indications of cure in disease, we should take into consideration the above-mentioned points of pathological inquiry.

To particularize,—let us investigate the several modes by which disordered function in the digestive apparatus leads to derangement of sensation, function, and action in other parts of the system, and then individualize the forms of disease in which alterants, by correcting this state of disordered function in the chylopoietic organs accomplish the cure.

The morbid states of the abdominal viscera may produce disturbance of sensation and function, and even lesion of organization, in the thoracic contents, in the following modes:—1. Through nervous communication established between the pneumo gastric

and the central ganglia of the sympathetic nerve; 2. through vascular connection; 3. through similarity of texture; 4. through functional union; 5. by contiguity of organs. In the first mode, we have cough excited by the presence of worms in the alimentary canal. An instructive case is given by Dr. Graves, of Dublin, in his excellent clinical lectures, which reflects directly on this point. A young lady in Dublin was attacked with fits of coughing, of extraordinary intensity; the cough "was dry, extremely loud, hollow and repeated, every five or six seconds, night and day, when she was asleep as well as when she was awake. Its violence was such that it threatened, to use a vulgar, but expressive phrase, to tear her chest in pieces." There was no fever in the case, and "she did not fall away proportionally in flesh, though bled, leeched, blistered, and got the tartar emetic mixture, but without experiencing the least relief." Opium, conium, hyoscyamus, and Prussic acid, were had recourse to, without the slightest benefit. Her physicians gave up the case in despair, and she was cured, *all at once, by an old woman.*" This veteran practitioner, a servant in the family, suggested the exhibition of a large dose of spirits of turpentine, with castor oil, for the purpose of relieving a sudden attack of colic; two or three hours afterwards, the young lady passed a large mass of tape worm; and from that moment every symptom of pulmonary irritation disappeared." Irritable dyspepsia, in which there exists a morbid sensibility of the stomach and intestines, is apt to induce bronchial irritation and pain, with fits of palpitation of the heart.

Vascular connection unites in intimate relation the morbid states of the abdominal and thoracic viscera. A reflux of blood occurs in the venous system, in cases of aneurismatic dilatation of the heart, which is productive of engorgement of the liver, and of gastro-intestinal irritation, and hyperœmia of the mucous tissue of the digestive tube.

The mucous tissue diffused trough the bronchi and alimentary canal binds these parts together, in morbid as well as in physiological conditions of the viscera of the thorax and abdomen.—This is exhibited in cases of croup, in which there exists inflammation of the mucous tissue of the lungs, with great insensibility of the internal coat of the stomach. Asthma often arises

from irritation of the internal surface of the stomach and bowels. Protracted inflammatory dyspepsia brings on chronic bronchitis.

The liver and lungs are regarded by some eminent physiologists as co-operative organs in the production of certain changes in the blood; but we think that this speculation is hardly sustained by well generalized facts.

The diaphragm is interposed between the two great cavities; and the liver, when inflamed, produces irritation in the lungs, by the relation of contiguity. Suppuration of the liver is often terminated by a discharge of pus through the diaphragm and lungs.

Disordered function of the chylopoietic viscera is met with under several familiar aspects. Dyspepsia is the most common. This may be atonic, irritable, inflammatory, or follicular, and may be radicated primarily either in the stomach, duodenum, or colon. These several forms of dyspepsia engender a morbid irritability of the innervation, with more or less disturbance of the vascular system. This constitutional irritability, with irregular distribution of the supply of blood to the different parts of the body, brings on a train of morbid phenomena in the head, lungs, skin and kidneys. Deranged sensations in the brain, such as hallucinations of mind, illusive impressions, and sleeplessness, often are precursors to melancholia, terminating in madness or suicide. The lungs are thrown into asthmatic efforts, and the heart is irritated into palpitations. The kidneys secrete new products, and new combinations and proportions of the original elements of the urine.

Urinary calculi and saccharine urine are often the products of a disordered state of the functions of the assimilating organs.

Hepatic derangement follows, or co-exists with the interrupted or perverted functions of the stomach and bowels. This biliary disorder contributes still further to the deranged condition of the constitution and of the brain and lungs. Grafted on peculiar states of predisposition in the system, these conditions of the gastric, intestinal and hepatic functions bring on hydrocephalus or phthisis pulmonalis. Where ætal and scrophulous predispositions are conjoined with this engrafted, or superadded disturbance of the chylopoietic viscera, there is frequently engendered incurable lesions of secretion, or structure, in the encephalon, or thorax. Dr. Cheyne regards hepatic derangement as an essential element in the origination of dropsy of the brain. We think he has car-

ried his view on that point beyond the warrantable bounds of a sound induction. Diseases of the skin are often traceable to disordered function in the organs of nutritive life.

Marasmus, connected with enlargement of the mesenteric glands, is not attributable to any mechanical impediment to the free course of the chyle through the lacteals, for experiments performed by Soemmering and others, have proved that no such obstruction exists as is generally supposed. The cellular texture around the chyliferous tubes is the seat of the irritation and inflammation, which destroy life, in fatal terminations of the disease.

In the disordered function of the bowels and liver, there sometimes supervenes a structural change of the mucous surface of the digestive tube, or of the organization of the liver. But these organic changes are quite infrequent, compared to the number of cases of merely disordered function.

There are four great organs in the system, which are constantly giving egress to the peculiar fluids of their secretory elimination—the skin, the liver, the mucous coat of the stomach and bowels, and the kidneys. These emunctorial outlets reciprocally affect each other. If either the skin, liver, intestinal canal, or kidneys, fail in their functional activity, and fall into a disordered condition, the others soon realize a derangement in their functions. In administering alterants we should keep this principle of pathology in view.

There are rational and physical signs to warn us of the states of disordered function in the intestinal canal. The tongue is not to be too exclusively relied upon in our diagnosis; for it frequently is coated when there is no special disturbance of the digestive passages. The state of the prolabia, a dry and fissured state of lips, with aphthous sores on the tongue, we often have in irritated states of the bowels. The deranged sensations, such as pain, sense of distension, and oppressive weight, about the præcordia, with the deranged functions, indicated by confined or very loose bowels, and unnatural alvine excretions, denote a morbid condition of the chylopoietic viscera. The pain and fulness so frequently present in the right side, are not to be too confidently relied upon as denotive of hepatic disturbance. Fœcal accumulation in the colon, and ulceration in lower part of the ileum, have been treated for liver disease, to the great injury of patients.

IV. *Rules for the administration of Alterants.*—There are general rules of therapeutics in the application of this class of medicines, which should receive a distinct and prominent notice at our hands. The first rule to be observed is, a due preparation of the system, for the reception, and appropriate agency, of the alterant we are about to administer. In acute maladies, this rule is of especial authority. In high inflammatory action, blood-letting should precede the use of our alterants. Where the constitutional powers are reduced, we should not institute the alterative plan of treatment till the constitution has been invigorated by a course of preliminary tonic treatment. This provisional measure is of paramount weight in the employment of mercury in cachectic, or broken down constitutions. We may speculatively expatiate on the stimulant action of mercury; but in the practical applications of this remedy we are taught, by experience, not to expect from it any benefit in cases of shattered and enervated vital powers. Where it is deemed of absolute importance to exhibit mercury to enfeebled patients, we should gradually employ it in combination, or cotemporaneously, with tonics. Mere debility, however, is not to deter us from the use of alterants of the anti-inflammatory or antiphlogictic character; for that debility may be but a symptom of some deep-seated inflammation.

There is then a preparation of the system which should be secured in reference not only to the excessive degree of contractile power displayed by the heart, with the corresponding development of animal heat, but likewise as regards the prostration of that power, with its corresponding reduction of animal temperature. On these most interesting points of practice we cannot dwell; but they are of such magnitude, and of varied applicability, in the treatment of acute and chronic disease, that they are deserving of expanded discussion. Too often have we witnessed melancholy results spring from the neglect of the above truths. Patients in fever, prior to due depletion, are often mercurialized by the injudicious administration of large quantities of calomel; and too frequently their lives pay the forfeit of this premature attempt to bring on the specific action of mercury.

Where the general powers of the system are prostrated by the suffocated excitement of fever, the phenomena present indicating what is generally called congestion, the mercurialization of the

patient is often our best resource. This step is not always decisively useful; but it holds out, after counter irritation and moderate depletion, by cups over the chest, abdomen and head, our most effective means of preventing lesions in the great splanchnic cavities.

In chronic affections, there may co-exist either an absolute or relative plethora. Absolute plethora, the plethora *ad molem* of the ancients, is known by vascular fulness, strong venticular action, and other evidences of high health.

In relative plethora there exist partial determinations of blood to particular organs, with a constant tendency to congestive irritation, and suppressed, or disordered function, of the secretories. In both absolute and relative plethora, we must reduce action before we administer alterants. But by judicious combination of remedies, within certain limits, we may control the plethora, whilst we are conducting an alterative plan of treatment.

The second rule which should govern us in the employment of alterants is not to attempt the attainment of a too sudden result. Time is an essential element in the beneficent influences to be exercised by alterants. This remark has special relevancy to chronic diseases. To subvert long established disordered function, or to displace structural alterations, by this class of remedies, we must adapt the quantity given to the excitability of the body, and of the deranged organs, and protract the use till through a gradual, slow process, the morbid action is overcome by gentle solicitation rather than by severe aggressive medication.

Sir Wilson Philip informs us, in his treatise entitled "The Influence of Minute Doses of Mercury," that he has for thirty years employed minute and frequently repeated doses of mercury, and that he was led to this practice, "by observing that, in lessening the dose and increasing its frequency, in proportion as we lessen the immediate, we increase the alterative effects."

From our great familiarity with the more energetic displays of action which mercury and tartar emetic exert upon the system, we are very apt to underrate the more subdued and tranquil modes in which they are capable of accomplishing diversified curative ends.

Calomel and the blue pill are generally resorted to for the purpose of producing direct purgative results. Mr. Abernethy erred,

we conceive, on this point, for although these valuable medicines are often called for to excite in a rapid manner the biliary function, and induce a more accelerated transit of fœcal matters through the alimentary canal, yet a too exclusive regard to these immediate obvious effects is calculated to mislead our minds from a due estimate of the excellence which attaches to these articles, when given in minute and frequently repeated doses.

The commonly employed preparations of mercury may act remedially, 1st, by their local alterant impression upon the digestive tube, and adjoining organs; 2d, by the institution of an increased secretory action on the mucous tissue of the bowels, and on the heapatic apparatus, create a revulsive movement, remedial of the morbid condition of other organs; 3d, a constitutional agency, partaking of a revolutionary character, evidenced by glandular activity, excited circulation, and nervous irritability; 4th, by an insensible, tranquil, alterative agency, which though subversive of diseased states of the organism, does not interfere with the regular operations of life. In chronic disease, this last result we should exclusively aim at. Mercury may act mischievously in the following modes: 1st, by proving an irritant of a violent kind to the stomach;—we meet in practice with persons who are thrown into excessive agony by a dose of calomel, or blue pill; 2d, by acting as a salivant;—there are persons who have been badly salivated, and who suffer from a renewal of the ptyalism by one grain of calomel, or a few grains of blue pill. But in the administration of mercury to persons who have never been salivated, and who do not labor under any idiosyncracy, we find occasionally anomalous symptoms springing from its employment. Erethismus and eczema mercuriale, with dry gangrene about the mouth, may come on singly, or in combination. We do not believe that sound observation warrants the opinion held by many in the profession, that mercury gets into the blood, and thence is conveyed to the bones. But that there is such a real, substantive malady as mercurial disease, we have had many opportunities of verifying. Now, the bold and reckless manner in which the remedy is employed, even in chronic affections, is eminently calculated to bring on a most afflicting and incorrigible constitutional disease, which often defies the skill of the most experienced and enlightened physician to cure.

The next rule of importance in conducting the treatment of diseases by alterants, is to combine them with other remedies in such a manner as to secure more certainly our indication. Alterants may be variously combined with each other, to fulfil our indication. In acute affections, demanding their interposition, we unite tartarized antimony with calomel, or ipecacuanha and blue pill, that we may more effectively change or subvert morbid processes going on in the system.

Anodynes to abate morbid irritability, or suspend existing irritation, we combine with our alterants, that their action may not be frustrated by the excessive nervous mobility. Tonics may advantageously be combined with alterants in cachectic forms of disease. The sulphate of quinine, or infusions of qaassia, are well adapted to this design.

Another rule to be noticed is, that of selecting the particular preparation for the case in hand. Calomel and blue pill answer best in disturbed states of functions of the chylopoietic viscera, and in the majority of acute and chronic diseases, demanding the use of mercurials. But in affections of the skin, the corrosive muriate of mercury is incomparably the better article. Eight grains of this preparation, with eight grains of muriate of ammonia, is to be dissolved carefully in a small quantity of water, and made into sixty-four pills, by the addition of the crumb of bread. One pill is to be given three times a day, the patient taking at the same time a decoction a dulcamara, or sarsaparilla, to the extent of a pint a day.

We have seen so much good arise from a protracted employment of minute doses of corrosive sublimate, that we cannot too strenuously insist on the superior efficacy of this preparation of mercury. We believe it better, even in acute venereal affections, where there is a predisposition to scrophula, or any marked deterioration of health to give corrosive sublimate, in preference to either calomel or the blue pill. The corrosive sublimate is more stimulating than calomel, and when cautiously given, not so apt to affect the mouth. In the typhoid stage of fever, we regard the hydrargyrum cum creta, with or without Dover's powder, as the most eligible form of mercury. It acts as a mild alterant, and is well adapted to soothe the follicular ulceration which exists in that stage of fever. The doses should be small, and frequently repeat-

ed. Three, four, or six grains, with the same quantity of Dover's powder, exert a very favorable influence upon the irritated surface of the intestines, and act with ample power upon the biliary secretion.

In scrophulous affections, where there exists a deteriorated state of the peptic powers, as is most frequently the fact, we prefer giving a combination of iodine and iron. The iodine of iron, or Durand's solution of the protiodide of iron, is the best form of the medicine, in cases of scrophula, accompanied with deficient action. Ten drops of the solution is the medium dose. In visceral obstruction, or dropsical effusion, where we wish to administer a tonic alterant diuretic, the hydriodate of potash is the best preparation. The dose is from two to five grains, three times a day, or from twenty to sixty drops of a solution, made by dissolving thirty grains in an ounce of distilled water. These articles should be given in syrup; for though we have no reliance in the position assumed by Prof. Dungison, that sugar is an alterant, yet we believe that it acts favorably in two ways, when freely used in the form of good syrup in deteriorated constitutions—first, as a mild nutrient, and secondly, by protecting the mucous surface of the stomach from the irritation that might arise from the direct contact of the iodine.

Another rule which should be observed in the administration of alterants is a careful observance of regimen. Regimenal treatment must not be overlooked, whilst we are attempting to bring our patient under the alterative agency of medicinal substances. The quality as well as quantity of food must be made a matter of strict injunction on the part of the attending physician. But here the patient is most likely to array appetite and habit against the judgment of his medical adviser. The point is one of deep import, and pregnant with the issue of the trial instituted by the physician for the restoration of his patient's health, and should not be surrendered to the discretion of the sick man. Articles of diet may not offend the stomach of the patient, and yet be injurious to him, by affording too much stimulus to the chylopoietic organs, and by imparting a too abundant nutrition.

On the other hand, there are cases which call for a dietetic management of a decidedly nutritive and exciting nature. In

cachectic, or depraved conditions of the body, such as that which is often witnessed in scrophulous patients, a course of living calculated to invigorate and nourish is demanded.

An additional rule in the practical application of alterants refers to the period of their administration. The criterion by which we are to be governed in acute disorders is the abatement of morbid action. This abatement is revealed in various ways, and through different signs of recovery.

Restoration of the secretions of the great emunctorial organs is a very significant manifestation, in acute affections, that our alterants have done their work in suspending the anormal state of the capillary vessels of the secreting tissues, which had been, either directly or indirectly, induced by the morbific cause. Upon a restoration of the secretions, the tongue becomes moist, and begins to clean off, the thirst declines, the heat and dryness of the surface recede, the renal discharge is augmented, and becomes more transparent, the bowels are acted on with more facility, and the alvine evacuations altered in color and consistency. Other symptoms are seen;—the sleep, which had been either totally, or to a great extent, interrupted, now returns, and the sense of weakness and misery which was so oppressive, is exchanged for the pleasing sensations of returning health. The pulse, which, during the acme of the disease, was increased in volume, in force and frequency, and disturbed in rhythm, falls back gradually to a more natural type of fulness, strength and regularity. The deranged sensations which accompanied the disease are disappearing, and the patient is now verging on the confines of convalescence.

Where these phenomena, or a part of them, arise upon the exhibition of alterants in acute attacks of disease, we congratulate ourselves that they have wrought their desired work, and in a majority of cases we decide correctly. In cases of doubtful termination, where we are not cheered by decided omens of returning health, we think it safest to push our mercurial alterant till there is established another indication. That indication, however, is too much relied upon by some practitioners. The demonstration about the mouth, that our alterative plan has told on the system, and, through the system, on the suffering organs, is very often an auspicious token. But mercury may create, by a misplaced action, a dry ulcerative soreness, on the buccal mucous tissue, which

is any thing but a satisfactory proof of its curative power. This dry ulcerative soreness of the mouth is to be deprecated in all cases; and where it occurs, the danger of the case is much enhanced. In all such instances, the further use of the remedy should be desisted from, and either further depletion instituted, or tonics directed, as the symptoms may indicate the propriety of the evacuant, or invigorating method of treatment. In chronic cases, the successful issue of the application of alterants to disease, is marked by the recession of deranged sensations, disordered functions, and anormal vascular action. The lesions of secretion and of nutrition, which occur so frequently in chronic affections, are often the pathological phenomena which spring from protracted irritation. This irritation may be in the brain, lungs, or chylopoietic apparatus, or it may be constitutional. Latent irritation may persist with little functional disturbance of the organ affected by it; and another, either contiguous or remote part, may receive the full measure of the disturbance wrought. This element of chronic disease, makes the diagnosis one of extreme perplexity, in those instances in which we find a complication of morbid phenomena. The predisposition is to be carefully studied—whether hereditary, acquired, ætal, or sexual; the cause acting in the production of the malady noted, and also the point of sensible attack—in our endeavors to arrive at a sound judgment upon the related affections of the several parts involved in the morbid action.

The first appearance of the beneficial operation of alterants in chronic affections is that which is exhibited by the innervation. The deranged sensations which existed in the head, chest, abdomen, back and limbs are mitigated—the constitutional irritability is lessened—and the almost neuralgic state of the skin gradually leaves the patient. Pain in the head, either cephalalgia, or a species of tic douloreux, persistent, or intermittent, is a frequent symptomatic affection, dependent upon the state of the chylopoietic viscera. The rectification of the disordered function of the organs of nutrition will not always remove the pain in the head. There may supervene upon this protracted irritation of the brain, or its membranes, an inflammatory congestion, which requires either general, or local depletion, for its cure, whilst alterants are exhibited to correct the vitiated state of the digestive apparatus.

The point or surface to which we address our prescriptions

hould not be disregarded. Where there is gastric disturbance, and our object is to influence the constitution by our alterants, we should make the skin the avenue for their communication to the suffering organ. Thus in liver affections we will find it best to employ inunction, or the nitro-muriatic bath, instead of giving calomel or blue pill internally.

The endermic medication, we believe, is too much neglected by physicians. The iatraleptic method, or that of application to the undenuded surface of the body, is one of great value in many instances. Iodine is frequently used in the form of ointment to discuss scrophulous and other indolent tumours.

The lungs are seldom made the avenue for the impartation of medicinal impressions; but we know that mercurial vapors being inhaled, will speedily bring the system under a mercurialism.

The final and most important rule to guide us in the exhibition of alterants, is that of adapting the medicinal article, in its curative relations, to the existing constitutional and local derangements. An article may bear general curative relations to a disease, and yet when prescribed without a due attention to the modifying circumstances, preceding and accompanying the existing state of the disease, it may act most injuriously. Mercury possesses strong curative relations for the venereal disease; so does iodine for scrophula, and so does arsenic for cutaneous affections; but were we to depend upon general therapeutics alone, without a careful analysis of the disease, and a rigorous application of special therapeutics to each case we should blunder into the most mischievous absurdities of practice, when we attempted the cure of every case of venereal with mercury, or of scrophula with iodine, or of diseases of the skin with arsenic.

Predisposition is to be studied, with the absolute or relative plethora existing; then the cause of the disease; then the seat occupied by it; after which we endeavor to discover what relations the disordered state of one organ bears to the deranged conditions of other parts, or of the whole system, and whether the original malady has been propagated from one point to other points by extension, remote changes, or substitution.

Besides, let the diligent and investigating physician reflect upon the satisfaction which he derives from the review of a case of difficulty which, by persevering pains-taking, has been enabled to

solve, and satisfactorily treat. In order to make plain the views which we entertain on the difficulties which the clinical physician meets with in the elucidation of dubious pathological conditions of the system, and of particular organs, we will give some practical exemplifications of disease. We sail by a plain chart, under a comparatively cloudless sky, when we are called to treat open forms of fever, and easily recognized inflammations. But when the case is one of complication, and the symptoms obscurely announce the seat of disease, whilst we are assured that our patient is hastening with sure steps to the grave, then we feel the importance of having comprehensive and enlightened conceptions of general pathology. We will adduce cases of both acute and chronic affections to illustrate our positions.

A young woman, aged 18, of scrophulous diathesis, and of nervous temperament, complained of pain in the head, and of being very restless. She continued in the state of *malaise* for more than a week, when she took to bed; fever was present to a slight degree, and the pain continued in the head. She was bled and purged, with benefit. Her menstrual discharge came on, and with accustomed regularity flowed for several days. During the catamenial effort, she had a decided fit of hysterics, after which some coma supervened. She remained more or less comatose, two or three days; the pulse being undisturbed, the heat of the skin little above its natural state, the respiration tranquil, and bowels susceptible of being readily evacuated by purgative medicines. We saw her with three other medical gentlemen, on the seventh day of her confinement to bed. She had been blistered on the ankles, and on the back of the neck, and had been purged frequently with calomel and other cathartics. She lay with her eyes open, and turned up—striking the head board of the bed with one or both hands, or throwing them out in a child-like manner, as if to amuse herself. The pulse was sixty-five, and regular, when we first saw her; the tongue but little coated; the intelligence almost null; the head thrown back; the skin not hot; the *abdomen not tense or tender.* In consultation, it was agreed to give her nervines that day; at night the plan was altered, as a majority of the physicians in attendance thought the brain affected. The case grew worse; the pulse in a few days became rapid, and at times intermittent; and two or three days

before she died the coma left her, and consciousness returned. Still the head was thrown back; and a day before death she had slight spasms of the muscles of the face, and quick tetanic contractions of the voluntary muscles generally.

Post mortem.—More than six ounces of water in the brain, both around the upper and lower portions of the hemispheres, and in the ventricles; tubercles diffused throughout the peritoneum; intense inflammation of the peritoneal sac in the pelvis, and lower part of the abdomen, with some inflammation in the mucous tissue of the rectum. Miliary tubercles studded the texture of the upper portion of both lungs, and drops of pus issued from the minute bronchi upon a section of the lungs, and there was a firm adhesion between the liver and diaphragm. This was a puzzling case, and one that was not comprehended aright, else the treatment would have been more energetic. There was a scrophulous as well as sexual predisposition in the case, which complicated its phenomena. Whether the disease originated in the brain, and subsequently affected the abdomen, or originated in the abdomen, and sympathetically irritated the brain, is yet *sub judice* among the medical attendants. That the inflammation commenced in the brain, and through the peculiar predisposition extended to the lungs and peritoneum, is the most plausible inference to our mind. After copious detractions of blood, generally and locally, such a case should have been treated by large doses of tartar emetic, with calomel. We have omitted the details of the treatment, such as small doses of calomel, with antimonial powder, cold applications to the shaved scalp, &c. Our remedial plan did not reach the morbid state of the capillary vessels of the brain and peritoneum. The tubercles were of recent production, as her health had been good to the period of her fatal attack.

There is no question but that dropsy of the brain supervenes often very rapidly upon abdominal irritation in scrophulous persons.

A young gentleman, aged 17, was a hard student, and grew rapidly—being tall and slender; whilst at college complained of pain in the abdomen, with general indisposition. He came home, and was placed under the care of his brother, an intelligent physician. There was no cough, nor did the stethoscope detect any lesion of the pulmonary apparatus; his tongue was red; and there was

much irritation of the bowels, evinced by general abdominal tenderness, and pain upon pressure. The alvine evacuations were frequent and painful. These symptoms persisted for a few weeks, when cough came on, then night sweats, purulent sputa, and in a few months from his attack he died of phthisis pulmonalis. Here there was ætal predisposition, unaccompanied by any positive evidences of a strumous diathesis. The appropriate plan of treatment in such cases should be counter-irritation, with such alterants as ipecacuanha and blue pill, and mild gentle exercise in the open air. Study, and every other effort that would tax the mental and corporeal powers, should be most scrupulously avoided. An unirritating nutritious diet, and flannel to the skin, should not be omitted in conducting the cure. The ipecacuanha exercises a most salutary influence in procuring an abatement of irritation of the mucous tissues. We confide much in it in such cases as the above, and likewise in chronic bronchitis and asthma. It should never be given so as to sicken, or produce alvine evacuations.

Alterants never act favorably when they bring on nausea, or excite into prompt and energetic movement the functions of other organs. It is, therefore, better to give them after the patient has taken some food.

The above was a case of extension of disease from the abdomen to the lungs, grafted upon a predisposition under which the patient labored.

The following is an exemplification of remote changes grafted upon a scrophulous diathesis. A gentleman was very subject to diarrhœa, until the absorbent glands in the neck enlarged and suppurated; his bowel affection after that did not return. He cured up the glandular affection by taking Swaim's panacea, and by the use of topical remedies. The diarrhœa did not return; but in a few months the lungs became affected, tuberculous deposition took place in them, and he died of phthisis pulmonalis. The treatment in such a case should be similar to the last-mentioned.

The following are cases of substitution, or conversion, of disease. A child had measles, with great inflammation of the bronchial tubes, which yielded to an anti-phlogistic treatment. Soon after the disappearance of the eruption, dysentery in a very severe form came on, which lasted for several weeks. Upon the dysenteric symptoms being checked, dropsy of the abdomen su-

pervened, with as entire a cessation of the dysenteric complaint as upon the supervention of dysentery the bronchitis had declined. Digitalis and calomel were given, which produced frequent watery discharges from the bowels, that induced so great a prostration as to jeopard the life of the patient; stimulants were freely given; after which the child slowly recovered. A man, lean and muscular, had an attack of acute inflammatory rheumatism, which was very obstinate in giving way under a depletory course of treatment. Upon visiting him one day, we found that his rheumatism had in a few days abated, and we congratulated the patient on the prospect of his speedy restoration. But we were sent for the next morning to prescribe for a new disease. Severe dysentery had come on, and the joints no longer were painful on motion. We combated the dysentery with calomel and Dover's powder, with counter-irritation over the abdomen; and in a few days it abated. Now, the rheumatism returned nearly as bad as previously, and the morbid action alternately passed from the bowels to the joints, four or five times, till the man, wearied with our medication, called in an emperic. In such cases, perhaps, our best plan would be to institute a decided mercurial impression, and maintain it for a few weeks. The thorough alterant action of mercury will arrest this tendency to metastasis, when no other remedy will. A conjunction of digitalis, or opium, to abate irritability of the system, is a happy one, and fulfils an important indication in such difficult pathological complications.

Art. III.—Vaginal Obliteration.

Two cases of Obliteration of the Vagina, caused by ulceration. By Thomas Carrall, M. D., of St. Clairsville, Ohio.

Case 1.—I was requested, sometime during the spring of 1835, to visit a lady, for the purpose of assisting Dr. H—— in performing an operation on her. I attended, according to request, and found that the lady had been delivered of a still-born child, some months before; that the labor had been difficult; that the child's head had rested in the inferior strait for many hours; and that soon after delivery, ulceration of the vagina had taken place, and had terminated in the obliteration of a considerable portion

of it. Not long after her recovery, the usual symptoms of menstruation were felt, and they had returned every month until the time I saw her; but without any external discharge. She complained of swelling in the lower part of the abdomen, and pain in the back.

From this most disagreeable situation it was thought she might be relieved, by making an artificial passage, which might be prevented from closing, by keeping the wound filled with lint, or some other substance. Upon examination, we found the vagina pervious for about three-fourths of an inch above the meatus urinarius. It seemed obvious, that the operation would be difficult and dangerous; and that the soft parts below the adhesion must be in great danger of injury, unless protected in some way from the edge of the knife. But Dr. H. had no instrument that would give the necessary protection. I advised him to defer the operation for a few days, and to obtain three crooked spatulas, by which the mucous membrane could be defended. He agreed to this proposition, and brought the instruments to our next meeting, which took place in a few days. We fixed one of the spatulas so that the meatus was protected, and one on each side; the handles being completely out of the way, owing to the bend in each. The Doctor now commenced the operation with a scalpel, which was by no means sharp; but cut and tore his way in the direction of the axis of the vagina, until I could introduce my index finger to the second joint. The opening was made in an oblique direction upwards, and to the left side of the vagina. No entry was made into the canal above; but the operator desisted from further efforts. Lint was stuffed into the opening, and the patient removed to bed.

During the next day, however, a large quantity of grumous blood and serum, passed through the opening, which proved that a communication had been effected by the pressure of the fluid contained in the uterus. On examination, we found that a sinuous opening was formed, and through this the regular menstrual evacuations continued to pass, at each period, for a few months, when the lady again became pregnant. About four or five months after impregnation, abortion took place. The fœtus, enveloped in the membranes, was ejected from the womb, and pushed forcibly against the point of obstruction; which at length gave way.

About a year after this occurrence, I was summoned to wait on this same lady, who was then in labor. The fœtus had attained to the full period of maturity, and was unusually large. I found, on examination, that there was a ligamentous band surrounding the vagina, about an inch and a quarter wide below and laterally, but somewhat narrower above; and at this point it was pressed down a little, like a flap, which became still narrower, or thinner, as the child advanced. The labor was peculiarly difficult; for the ligamentous state of the vagina resisted, for a number of hours, all the efforts of the uterus to press the head through it. However, it was gradually dilated, and I became convinced that the child would be born without the use of instruments, and probably alive. As to the latter I was, however, deceived; for just as the labor seemed to be almost completed, a sudden cessation of pain took place, and the patient fell into a condition bordering on convulsions, in which she continued too long for the safety of the child. In the meantime I prepared to use the forceps; but fortunately the child's head was expelled by a single pan. As this woman is young, and possesses a fine constitution, I have the flattering hope that she will yet have a living child; for I think the obstruction will be less with every succeeding labor.

Case 2.—A woman of robust constitution had difficult labor. The head of the child rested against the perinœum for about 24 hours; but the pains eventually effected the expulsion of the child without the use of instruments. No untoward symptom occurred for some days after delivery; but this did not continue, for inflammation of the mucous membrane of the vagina set in, and continued until it terminated in the obliteration of that passage. This result was unfortunately not suspected by the friends of the patient, nor by her physician, who lived at some distance, and who had not been sufficiently apprized of the nature of the case. Some months after this period, her physician was consulted by her husband, and informed that a complete obliteration of the natural passage had taken place. The patient was advised to apply to the writer of this article. She accordingly called on me; and upon examination, I found, apparently, a complete obliteration of the vaginal canal, which commenced about three-fourths of an inch above the meatus urinarius.

The patient, however, had menstruated regularly for some

months; but said that much difficulty and pain occurred before the discharge became visible; and when it did, there was considerable fluid evacuated for some hours. I asked her whether she thought it passed through the urethra or not; she said she was confident that it did. With this opinion I could not agree. I imagined that there might be a sinous opening, which closed between the menstrual periods, and that the pressure of the menstrual fluid re-opened it. As this seemed to me to be the only way the matter could be accounted for, I directed the patient to go home, and to send for me when the menstrual discharge should be again present.

Within about two weeks I was requested to see her; and, upon examination, found my anticipations correct. A very small opening had been effected by the retained fluid. I introduced a probe, and found it went the whole length of the vagina. It was agreed, upon consultation with her physician, Dr. J. Alexander, that a bougie of the size of a common catheter, should be introduced immediately, and retained in the sinus for one or two days; and that it should then be withdrawn, and a larger one put in its place; and that a still larger one should be used at the end of a few days; and that an increased size should be continued until the vagina should be restored to its natural dimensions. Dr. A. agreed to make instruments of linen and wax, rolled into cylinders, and polished; and he succeeded to admiration; for in about two months our object was accomplished.

I was called, on the 7th July, 1836, to see this lady, who was in labor. This was thirteen months from the period when the bougies were dispensed with six or eight hours before, and had been severe, as I was informed, by Dr. A., who had been with her most of the time. It was found, upon examination, that the part of the vagina which had been dilated was very rigid and unyielding; that it commenced about three-fourths of an inch above the meatus, and was about one inch in length.

We concluded to let the labor progress for three or four hours longer, and see what would be the effect. We however agreed to give twenty grains of ergot, which quickened the pains very much; but notwithstanding this, we had the mortification to find, that very little was done in two hours towards dilating the legimentus band. The stricture, however, appeared to be pressed

down as low as the meatus, and formed a flap above, with a circular edge, that was quite thin, and about three-fourths of an inch long, or wide, from the meatus. The band was the narrowest on each side. We now decided on an operation, and concluded to cut nearly through the band on the right side; which was, however, but in part effected; for I was forced to desist, in consequence of profuse hæmorrhage. During every pain the wound bled very freely; the head of the child seemed to act as a ligature on the veins; a pint and a half of blood was soon lost. I caught the flap above, and forcibly lacerated it with my finger, and with some exertion introduced the female leg of the forceps, and succeeded in a few seconds to fix both legs on the head; I then drew the head against the stricture with considerable force. The parts resisted with much obstinacy. I however succeeded in effecting the delivery, in ten or fifteen minutes. The bleeding ceased; but the child was still-born. The woman did well, although suppuration was profuse. She rode ten miles in one day, three or four weeks after delivery.

This woman has been again confined within the last month or two, and would in all probability have had a living child, had it been healthy; but it was affected with watery head; which made it necessary to again use the forceps, although the breech first presented. Her physician, Dr. Alexander, informs me, that she is again up and doing well. He says, that the ligamentus band around the vagina offered but little resistance, and thinks that if a head of the natural size had presented, but little difficulty would have been experienced in effecting a safe delivery. I think that this woman will yet have a living child, should she continue to have her health. It was suspected that there was deformity of the pelvis in her case. I however think that it is not so, or but in a very slight degree.

The foregoing case has admonished me, that in all cases where obliteration of the vaginal canal, or part of it, has taken place; (for I think the whole canal never becomes obliterated,) a very narrow opening through the obstruction is sufficient; say that it would admit the index finger; or if it were even less, so that it communicated with the canal above, I think it would be sufficient. Nothing would then remain to be done, but to dilate the artificial canal by bougies.

Where an operation of the kind under consideration is to be performed, the operator should be sure that he understands the anatomy of the parts, and that he has a steady hand. When we reflect how very nearly the bladder and rectum approximate, when there is an alteration of the vagina, we shall at once see the great danger of wounding one or both of these organs. To avoid wounding them, the operator should introduce the index finger of the left hand into the rectum, and use it as a director for the knife. By this precaution, I think the danger of wounding the bladder or rectum would be much diminished. In performing an operation of so delicate a nature, time and patience are necessary.

It will be recollected, that in one of these cases impregnation was effected, when but a sinuous vaginal opening existed; but that in both of them there was an actual communication with the uterus.

January 1838.

Art. IV.—Wound of the Stomach.

Case of Recovery from a Wound in the Stomach. Communicated by Charles B. New, M. D., of Rodney, Miss., through Prof. Harrison.

An Indian received a stab in Natchez, on the 24th December, 1837. Six days elapsed before I saw him, during which period he walked to Rodney, which is thirty miles from Natchez. On the 30th of December I visited him, and found, upon examination, a wound of four inches long, a little below and to the left of the scrobiculus cordis. Protruding from the wound, there presented a tumour, which, upon first view, I thought was a portion of the bowels; but upon further inspection, I discovered that it was most probably omentum. The external surface of this mass was very vascular, and in a state of suppuration. There was so strong a demonstration of sphacelus in the tumour, that I determined upon its removal by ligature. Accordingly the ligature was drawn pretty tight about the tumour, close to the abdomen. In a short time after the application of the ligature I returned, and found him very ill. Incessant vomiting, small, rapid pulse, cold and

clammy skin, indicated the necessity of removing the ligature. The knife was then resorted to for the removal of the protruding mass; but upon cutting into it, I found that a portion of the stomach constituted a part of the tumour. I carefully separated the already dead parts of the tumour from that which was not in a state of gangrene. In doing so, I had to remove a portion of the stomach. The stomach was secured by a ligature, and confined within the lips of the external wound. The wound was then stitched, and dressed with adhesive plaster.

On the 31st, I found him prostrated,—with cold skin, feeble pulse, nausea, and constipated bowels. The external wound, and that portion of the stomach which was perceptible through the wound, were considerably inflamed, but of a healthy aspect. Ordered him a solution of Epsom salts, with spirits nit. dulc. and tinct. opii camph.

Jan. 1. Some fever to-day, with nausea; his bowels were opened by the solution which he took yesterday. The external wound is suppurating. The edges of the wounded stomach very red, with slight suppuration.

2d. Free suppuration from the wound—appearances of granulation upon the thickened edges of the wounded stomach.

On the 5th of January, the ligature which secured the stomach came away. There is a firm adhesion of the stomach to the peritoneum along the wound.

10th. The wound in the integuments nearly closed by granulations. He is recovering rapidly; appetite is good, and bowels regular. On the 15th of January, he rose from his bed, the wound being almost entirely cicatrized; his appetite, digestion, and other functions of nutritive, as well as animal life, in a normal state.

January 1838.

Art. V.—Tracheotomy in Tonsilitis.

A case of Tronsilitis requiring, and successfully treated, by Tracheotomy. By Dr. James Lyman, of Austinburg, Ohio.

Mrs. L——, the subject of this case was 23 years of age, of a nervous temperament, but generally healthy. Sudden changes

in the weather had been frequent, and on going to church the 5th of March, 1836, she wet her feet, and returned home with her stockings wet and frozen. She however suffered no particular inconvenience, until the morning of the 7th, when she woke with soreness and pain in the fauces, redness and enlargement of the tonsils, together with some degree of lassitude and headache. Detergent gargles were used during the day, but she continued to grow worse. In the evening, I prescribed a cathartic of calomel and sulphate of magnesia, and applied a blister to the neck. On the morning of the 8th, the cathartic had operated copiously, and the blister filled well; but no relief had been obtained. Pulse nearly natural, or a little depressed; deglutition very difficult; respiration somewhat impeded; skin nearly of the natural temperature. Gargles continued, and diaphoretics administered, as well as the case would admit. In the evening, all the symptoms more aggravated; fever more apparent; skin hot and dry; pulse somewhat excited; pain, to use a common expression, in the bones, and sense of pressure in the head: bled from two orifices, until syncope ensued, which afforded considerable relief for a few hours, when the pain returned with more violence than ever; deglutition completely stopped by the morning of the 9th, and respiration more difficult; no rest since she was taken. Scarified the tonsils, and obtained about an ounce of blood, which gave temporary relief. Another blister was applied to the upper part of the chest, which filled well in a few hours, and occasioned a severe strangury, that lasted six or eight hours, and whilst this continued, very little pain was complained of in the throat, and the respiration was freer; but all the symptoms returned with aggravated violence as the strangury subsided. On the 20th, respiration more difficult; the patient's tongue protruded from the mouth; eyes swollen and projecting; more pain throughout the system; skin hotter and dryer; pulse so much increased in strength and frequency, that I thought it best to take more blood, which was suffered to flow from two orifices, until faintness approached. This once more gave some relief from pain; but the respiration became more and more difficult, so that, on the morning of the 11th, the eyes were much strained out of their sockets, appeared almost immoveable, and she was blind. The throat was livid, and nearly insensible to a strong decoction of cayenne pepper, which was then used to wet the fauces.

Such was her situation—fast failing for the want of breath, liable to serious lesion of the brain, in consequence of the violent distension of its blood-vessels, and the swelling of the throat still increasing, when I came to the determination to operate on the trachea. Counsel had been sent for, but none obtained. I therefore determined to operate alone. The patient was placed in an arm chair, with a pillow to her shoulders, and inclined backwards so as to render the trachea as prominent as possible. A transverse incision was then made, immediately over the interstice, through the integuments, between the first and second rings of the trachea, and the rings then divided with a bistoury. The thyroid gland was wholly avoided, and no vessel of importance injured; of course but little bleeding ensued. A leaden tube, made by myself at the moment, was then introduced, and fastened by passing some ligatures around the neck. The patient was then placed in a recumbent position, where, being at liberty to breathe with freedom, she became much revived. Her eyes by degrees resumed their wonted position in the sockets, and her countenance lost its bloated and purple aspect. A strong decoction of cayenne pepper was continued as a wash for the parts. On the 12th, intumescence somewhat greater that on the 11th, but not pointed so as to afford any chance for opening it; fauces exceedingly black and fœtid; some delirium; pepper continued, and nourishment and stimlants thrown up the bowels by means of a stomach pump. On the 13th, symptoms and treatment the same as on the 12th, until about midnight, when the tumour burst whilst she was in a sitting posture, and at once her lungs were filled with pus. I was in an adjoining room, and was immediately called. I entered the room, and found her, contrary to my wishes, in a sitting attitude, in which she had been placed, for the purpose of rendering respiration more easy. I immediately seized hold of her, and placed her in a situation where her head and chest should form the lowest part of her body. No signs were now to be seen of respiration, excepting an *occasional* gasp, and animation seemed nearly suspended. I now caught hold of a teaspoon-full of aqua ammoniæ, and dashed it into her mouth, which produced an effort to cough. This was somewhat successful, and threw off a part of the load from the lungs. By repeated efforts of this kind, the lungs were unloaded, and respiration fully re-established. From this time she

gradually improved, though large pieces sloughed away from her throat, and the incision into the trachea healed without the slightest difficulty. In dressing the wound, care was taken to embrace all the integuments within the ligature, down to the rings of the trachea, and one stitch alone was all that was required.

Austinburg, October 1837.

Art. VI.—Odontalgia.

Observations on Toothache. By S. P. Hullihen, of Wheeling, Va.

There is no disease, perhaps, which attacks the human family so indiscriminately and universally, as the toothache; none which the physician is called upon so often to alleviate, and none that he treats with less success.

There can be few things in medicine more erroneous, than to call every painful affection of the teeth "toothache," and treat them all as one specific disease. As well might a wound in the scalp, a fracture of the skull, or inflammation of the brain, be called "headache," and treated as such.

Toothache most generally originates from local causes, differing sometimes materially from each other. However, pains are oft-times experienced in the teeth, through that mysterious agent usually termed sympathy, when the exciting cause may exist in a distant part of the system. Females are particularly liable to be affected in this way, during pregnancy.

A painful tooth is always annoying, and sometimes exceedingly severe; but this is trifling, compared with the consequences that frequently ensue from it. Diseases of the most malignant nature, and deformities the most unseemly to be beheld, are not unfrequently the result of toothache, or rather, of the disease which occasions it.

With these remarks, I shall proceed to treat, separately, of the different causes of toothache, in the following order:—

1st. Toothache from exposure of the nerve;

2d. From fungus of the nerve;

3d. From the formation of pus in the internal cavity of a tooth;

4th. From a diseased state of the external membrane covering the fang;

5th. From sympathy.

TOOTHACHE FROM EXPOSURE OF THE NERVE.

The nerve of a tooth is intended by nature to be completely protected by a thick bony covering, and when exposed either by accident or disease, it becomes inflamed and painful, from the action of air, food, fluids, and other irritating causes.

The first attack of toothache from exposure of the nerve, is usually instantaneous, and is most generally brought on by some mechanical violence; either while eating, picking the tooth, preparing the cavity for a plug, from the fracture in attempting to extract a tooth, or otherwise. The pain is very severe, and rather of a sharp and darting character. It is easily palliated by any stimulating applications; but will immediately return, if air, food, or drinks of any kind, be suffered to come in contact with the nerve. The nerve will sometimes remain in this situation for weeks; but at length a high inflammation will ensue, and suppuration be the result, together with its total destruction of the tooth.

Treatment.—As this kind of toothache is always very troublesome, many remedies have been employed for the purpose of destroying the nerve, such as caustics, acids, and other applications of a similar nature, but without the desired effect. The actual cautery has also been resorted to, and has proved equally unsuccessful, owing to the utter impracticability in many cases, and the impossibility of applying so small an instrument with the necessary degree of heat. The essential oils, opium, creosote and various other stimulating remedies, have been used as palliatives, and with general success, when actually applied to an exposed nerve; but from the very prevalent opinion, that all pains of the teeth proceed from an exposure of the nerve, these remedies are often employed, when it is not in the nature of things, that they should prove in the least degree beneficial.

The most efficient method of destroying the nerve, and one, which from the nature of the operation, and the smallness of the instrument employed, can be performed with equal success upon any tooth in the mouth, is to rupture the blood-vessels of the nerve. This is done by taking a small wire, a little larger than a bristle, and plunging it into the nerve, and down the fang as far

as possible. Upon withdrawing the instrument, a few drops of blood will follow. The patient is quickly and permanently relieved from pain, and a speedy suppuration of the nerve is always induced.

There is another method, which I have found very successful; but it is objectionable from the great length of time it frequently requires to effect a cure. This consists in the wearing of lint in the cavity of the tooth, wetted with creosote, or some of the essential oils, until the nerve suppurates. The application is to be renewed every day, taking care that the lint does not produce the least pressure upon the nerve. This treatment usually prevents the tooth from aching, and likewise promotes the suppuration of the nerve, and suppurate, every exposed nerve must. It is an operation Nature sets up for its removal.

Whenever there is a discharge of pus through the crown of a tooth, from the internal cavity, care should be taken to prevent the opening from being closed with food; for when this takes place, the tooth becomes very sore and painful. Therefore, lint wetted as before directed, should always be kept in the cavity; it will absorb the matter, and likewise prevent such an occurrence.

TOOTHACHE FROM FUNGUS OF THE NERVE.

Fungus of the nerve, so called from its occupying the former situation of the nerve, most probably originates from a remnant of the dental blood-vessels. It invariably attacks fangs and teeth, where the nerve has been destroyed for a long period; it is of a deep red color; very soft; bleeds freely upon the slightest touch; is sometimes totally insensible; at others highly sensitive; giving much pain of an incessant character; entirely free from any darting or throbbing sensation; and when small and painful, is frequently mistaken for an exposed nerve. It varies in size, from that of a pin's head to a pea, or larger. It is sometimes, when small, deeply situated in a fang; but more generally protrudes, filling up a cavity formed by caries. It always occasions a most fœtid and disagreeable breath, which no spice nor perfume can conceal, nor art remove, as long as it is suffered to remain.

Treatment.—To destroy this diseased growth is very difficult, and I may say impossible, except in such cases which permit the actual cautery to be applied to its root; and, as the disease commences in the very foramen of the internal cavity of the fang, this

means is narrowed down to a few cases, when at all practicable. When a tooth becomes painful from this affection, it is only necessary to make it bleed freely, to ensure immediate relief; but in all cases where the fungus cannot be completely eradicated, the tooth should be extracted, for there is no disease of the mouth which makes the breath so intolerable. Some time since, a young lady, about 17 years of age, applied to me with a growth of this kind, in each of the second molares of the under jaw, which had assumed rather a novel character. She stated that the fungi had made their appearance in both teeth at the same time, about four years before, and that for the last two years she had been much troubled with a bleeding from them, which took place regularly once a month, and continued from two to four days. She being very anxious to have the teeth saved, I destroyed, to all appearance, the morbid growth, and plugged the teeth. In a few days, they became sore and painful; the plugs were removed, and a slight bleeding commenced, which continued for three days, and then the tumors disappeared entirely. I was therefore induced to plug them again; but, in about three weeks, the teeth became sore, the plugs were removed, and a bleeding ensued as before. I now suspected it to be a *vicarious menstruation*, and mentioned the case to the family physician. At his request, I plugged them again, and the result was precisely as before. The teeth were then removed, and the patient was put under a course of treatment, by her physician, which effected a cure.

TOOTHACHE FROM THE FORMATION OF PUS IN THE INTERNAL CAVITY OF A TOOTH.

Whenever the nerve of a tooth is rendered near the external surface by caries, fractures, or from the absorption and receding of the alveolar process and gum, or other causes, it is subject to much irritation, varying however in proportion to the extent and loss of covering. Thus a greater or lesser inflammation of the nerve necessarily ensues, producing the following very different effects. When the inflammation is slight, and comes on gradually, some dormant vessels are stimulated into action. A bony deposite takes place in the internal cavity of a tooth, and the nerve is again completely protected from all external irritation. This more frequently occurs in teeth that are worn down by constant friction. The entire crowns of teeth are sometimes worn off, and the nerve

still protected by this beautiful process of nature. But in the great majority of cases, inflammation is induced rather speedily, and runs sooner or later into excess. Suppuration of the nerve is the consequence, and from this result may be traced the true causes of many diseases of the jaws and mouth not generally understood.

Toothache from suppuration of the nerve occurs very frequently. At first, the tooth is painful, only when hot or cold fluids or food pass over it, and may continue in this situation for some time. At length a steady gnawing pain supervenes, and then the tooth begins to get sore, and appears a little loose and longer than the rest. About this period, the pains assume a very different character, darting from the tooth along the courses of the nerves, to the temple, ear and side of the head, and to the teeth of both jaws on that side. Within twenty-four hours, the face begins to swell, and the pain changes to one of a constant throbbing description, and appears to beat in unison with the pulse; symptoms which indicate that an alveolar abscess is forming.

When a tooth, in the manner described, becomes sore, the nerve is about suppurating; when it appears larger than the rest, loose, and is very painful, the nerve has suppurated, and the pus is beginning to ooze out at the extremity of the fang, where the vessels enter, producing much pressure, hence the sharp darting paroxysms. When the cheek begins to swell, the matter is effusing between the alveolus and the lining membrane, and occasions the throbbing pain which always accompanies the formation of an alveolar abscess. The true abscess of the antrum maxillare originates, in like manner, from the same cause, when the fangs are very near, or penetrate that cavity.

There is now and then a case, that differs materially from the general progress of this disease. The nerve may suppurate, and the face swell, and both pain and swelling subside, without the development of an abscess. When this occurs, the matter is insinuated between the end of the fang and the membrane covering it, about the size of a pea, and sometimes larger, which may be felt distinctly in the gum, opposite the end of the fang. By pressing on it, a fulness, or sensation of pressure, is felt in the tooth. But this sac will eventually burst, and an abscess is invariably the result.

Treatment.—As soon as it is ascertained, that the nerve is suppurating, the tooth should be *trepaned.* The matter is thereby suffered to escape as soon as formed, and the patient is immediately relieved from pain. In such cases, when the matter has even begun to ooze out at the end of the fang, and the face has not yet become swollen, the same treatment should be observed, and will most generally prove successful. But when the face is already swollen, and the pain is of a throbbing character, there is no remedy but the extraction of the tooth.

The proper place to select for trepaning or drilling a tooth, depends altogether on the cause that produced the suppuration of the nerve. If it be from caries, a hole should be drilled from that cavity; if from a fracture, or the wearing down of a tooth, the nearest point to the nerve should be selected; if from too great exposure of the fang, from absorption of the alveoli and gums, and the tooth be sound, it should be drilled from the inner side, as the matter may then be immediately sucked out, if necessary.

TOOTHACHE FROM A DISEASED STATE OF THE MEMBRANE COVERING THE FANG.

Every practitioner will observe in the course of his practice, that at times toothache rages almost like an epidemic. This more frequently occurs when any very sudden change of weather takes place, particularly to cold and wet. The pain is mostly confined to fangs and teeth, in which the nerve has suppurated long before, causing alveolar abscesses; and when there has been a discharge of pus from the alveolar cell, occasioned by receiving a stroke on the tooth. In either case, an incurably diseased state of the membrane covering the fang is induced, and ever after it is liable to become inflamed and painful, on taking a sudden cold. Such fangs and teeth, almost every individual possesses, and being acted on at the same time, by the same cause, will account for the occasional *prevalence* of toothache. The pain is generally of a dull, heavy character, the tooth becomes a little sore, the gums very much inflamed, and of a bluish tinge immediately over and along the whole length of the fang. Sometimes the gum is puffy opposite the end of the fang, and the pain of a throbbing description. In such cases, matter is forming, and a partial filling up of an old abscess takes place, forming what is usually termed a "gum boil." It is rarely, if ever, that the face becomes swollen from an attack of this kind of toothache.

Treatment.—The pain may be greatly palliated, by making an incision through the gum, along the entire length of the fang, and then applying a roasted fig, or bruised raisins to the gum; but as the pain is almost sure to return upon taking cold, the extraction of the tooth should always constitute the treatment of this variety.

TOOTHACHE FROM SYMPATHY.

It is well known that the human system is sympathetically connected, in all its parts, by the nervous system; and yet some organs, from being more intimately connected than others, sympathize oftener than others.

During the formation of an alveolar abscess, there is much pain and inflammation in the offending tooth and surrounding parts, the nerves become involved and irritated, the irritation extends to all the teeth of both jaws on that side, and to the ear, temple and scalp. Sometimes each tooth sympathizes in its turn, so that some one is always more severely affected for a short time than the rest, and this more pungent sensation, is continually changing from one tooth to another, and to other associated parts.

Sympathetic toothache occurs very frequently during pregnancy, and is evidently induced, sometimes from an increased, at other times from a diminished action, dependent on the peculiar state of the general system. But in either case, the teeth are almost invariably diseased, and the painful sensation exclusively confined to them. Sufficient indications, however, are always present, and so distinctly marked, as to enable the practitioner at once to determine whether the pain proceeds from torpor or an inflammatory action.

Treatment.—When toothache is induced by direct sympathy with a diseased tooth, or the results arising from one, the cause, if possible, should be removed; but if the exciting cause exists in a distant part of the system, blood-letting and purgatives will be most generally indicated, and may be strongly recommended. But when a painful sensation is produced, from want of action or natural stimulus, the teeth *should not be extracted*, unless when so much decayed as to render them useless in mastication. For many useful teeth are thus affected, and are always easily relieved and oftentimes entirely cured, by any highly stimulating application to them and the gums; such as the essential oils, creosote, or a divided fig powdered over with pulverized camphor, and equal

parts of cayenne pepper and mustard. But to brush the teeth and gums frequently every day, with a stiff brush dipped into some stimulating wash, is also very advantageous, and, perhaps, more generally efficient than any other remedy.

Exostosis is another disease of the teeth, which occasions the most intense and excruciating paroxysms; but as the pain is not generally felt in the tooth, nor its proximate parts, it cannot with propriety be considered under the head of toothache, and may therefore form the subject of some future paper.

Having now pointed out a number of causes producing toothache, all differing very materially from each other, and the treatment respectively required, I trust that the great impropriety of extracting every painful tooth, and *the utter impossibility of any remedy being discovered or invented, to cure all kinds of toothache*, will be clearly comprehended and duly appreciated.

January 1838.

Art. VII.—Death from eating Fruit.

A case of Death apparently from eating unripe Apples, and the fruit of the Prunus Virginiana, *or Wild Cherry.* By Dr. R. C. Mann, of Mount Pleasant, Hamilton County, Ohio.

On the 18th of August, 1837, I was requested to visit C. B., a strong, healthy boy, aged five years, and arrived at 4 o'clock P. M. when he presented the following symptoms:—Pulse about 160, small, quick, irregular, wiry; mouth open; tongue partially protruded, of a dark red, and dry on the apex and edges, coated with a dirty grey fur at the base; teeth partly coated with sordes; eyes half open; pupils dilated one half beyond their usual size; blood vessels of the eyes distended, the balls covered with a thick glutinous secretion rolled upwards, and insensible to light, or the approach of external objects; respiration difficult, stertorous, thirty in a minute; skin on the face of a deep shining red, with a few purplish spots; trunk covered with a bright red crescent-shaped eruption, extremities with diffused livid blotches; epigastrium distended, resisting, very hot; head hot, and thrown backward; limbs cold. In this situation he remained, after my arrival, about 15

minutes, when he began to murmur; and this increased till he talked rapidly; his enunciation being indistinct, guttural, and attended with great muscular exertion. This paroxysm lasted about ten minutes, subsiding gradually till he sunk again into coma.

In reply to my inquiries, I learned, that 48 hours previously, he had, in company with some other boys, visited a neighboring orchard, where he ate wild cherries and unripe apples. He returned before night, ate a hearty supper of fried potatoes, with bread and butter, and retired early to bed, apparently well. In the night he arose, went to his mother, and said he was sick. She gave him some water, and sent him back to bed, without further attention. In the morning, she found him "with a high fever, and so sleepy she could not keep him awake." She at once concluded he had an "attack of worms," and commenced feeding him "worm tea," (*Chenopodii anthel. infus.*) His stupor and fever increased continually; but she was not alarmed, being confident he would be relieved by discharging the worms, and therefore continued her treatment during the day. At night, she gave him a table-spoonful of ol. ricini, and towards morning repeated the dose. At 7 A. M. worse; no evacuation; gave him 12 grains of calomel and 5 of rhubarb, and continued the anthelmintic infusion. His disease, however, increased in violence; the parents became alarmed, and despatched a messenger for me; but I could not visit him till the hour specified above. From the retching, distension of the epigastrium, and other symptoms, I was induced to believe the stomach still retained irritating ingesta, and immediately administered, in repeated and liberal doses, an emetic of tartarized antimony and ipecacuanha. At half past five o'clock, no change in the symptoms. Emetic solution all taken, without a symptom of emesis. Ordered venesection, to which the parents objected, declaring they "never knew any person get well, who was bled in so high a fever!" Substituted the cold dash freely, from a height of three feet. Pulse immediately sunk to 140, and became stronger and fuller. No sensorial relief. In twenty-five minutes, pulse rose to 165. Disregarding the fears of the parents, I now abstracted ten ounces of blood from the arm, which reduced the pulse to 120, and rendered it small, soft and compressible; but the sensorium was not in the least relieved. At 7 o'clock, pulse

170, irregular; all the symptoms worse; no evacuations. Ordered ol. crot. tig. gt. iv., in six pills; one to be given every forty minutes, till catharsis should commence, aided by frequent stimulating enemata; drink, alkaline. At 3 A. M., pills all taken. They produced four copious dejections, not seen by me, but described as green, undigested, and very offensive. Pulse 180, irregular and small; cutaneous eruption of a darker hue; hands and wrists quite purple; respiration 24, more laborious; eyes fixed and agglutinated; extremities stiff and cold; chest and head very hot. Continued cold applications to the head, and hot applications to the limbs. No medicine. The alternation of jactitation and coma had nearly subsided, and he remained wholly insensible, with occasional struggles, till 8 o'clock A. M., at which time he died, very much swollen in the abdomen.

Sectiv cadaveris, 8 hours after death. *External appearance.*—Tumefaction subsided; petechiæ livid on the limbs, sub-livid on the trunk and face; arms flexed and stiff. *Thorax.*—Lungs healthy; heart natural; pericardium containing three ounces of serum. *Abdomen.*—Stomach containing a little dirty greenish fluid; mucous membrane folded into large soft rugæ; cardiac portion in a state of inflammatory hyperæmia; pyloric region covered with dark gangrenous spots, in many of them the structure entirely destroyed; pylorus thickened, softened, gangrenous. *Duodenum.*—Mucous membrane softened; many livid spots; jejunum and ilium in a state of partial inflammation, occasional large red spots; cæcum and colon natural; three lumbricoides were found in the former; omentum thickened and gangrenous near the duodenum and small lobe of the liver; remainder of the peritoneum sound. *Liver.*—Structure sound; blood vessels full. Gall bladder distended with dark vitiated bile. Kidneys natural. Urinary bladder distended with yellow offensive urine. The other abdominal organs in a healthy state.

January 1838.

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Editorial Remarks.

Dr. Mann, in a note appended to his paper, states that no eruptive disease prevailed in the neighborhood of Mount Pleasant when this case occurred; otherwise it might be regarded as irreg-

ular measles or scarlatina. The comrades of his little patient affirmed, that he did not eat a large quantity of cherries; but the Doctor, very properly asks the question, whether the Hydrocyanic acid contained in them, was not a chief agent in the production of the disease. We are strongly inclined to answer in the affirmative, from having long known, that the fruit of our wild cherry tree is often productive of very serious effects, especially when the stones are swallowed with the pulp. There is then a combined action of an astringent principle producing constipation, a narcotic poison, and a mechanical irritant. In the case before us, there was the additional influence of a mass of unripe and ascerb apples, and a quantity of ordinary food. It is not surprising that such causes should awaken mucous inflammation, and fatal sympathetic cerebral irritation. Had the patient been vomited freely when he first began to complain, his life would probably have been preserved. D.

Art. VIII.—Mineral Springs of Virginia.

Notices of the Blue Sulphur, and Hot Springs, of the State of Virginia.

By one of the Editors.

For several years past, the Mineral Springs of the Ancient Dominion, have been constantly gaining in their attractions, on the long and far-famed waters of the Empire State. To the people of the Valley of the Mississippi, *almost* the exclusive readers of our Backwoods' Quarterly, they are, from their comparative proximity, and their mountain locality, of peculiar interest. The access to them by the village of Guyandotte, is by no means difficult; as a good *summer* turnpike, stretching over an alpine region, peculiarly grand and picturesque, extends from the Ohio river to their very midst. The luxury and real value of a mountain atmosphere, in summer, to those who inhabit a hot and sultry plain, can scarcely be overrated. We presume, therefore, that a few pages designed to make some of these watering places more extensively known, will not be unacceptable to any, into whose hands our Journal may chance to fall. We confess, however, that our materials for this purpose are not as racy and copious, as the fountains

of which we speak. For the sketches of scenery and accommodations we may give, we are indebted to one of our fellow citizens,* who visited several of them during the past year.

The Blue Sulphur.

"This spring is the most westerly, and the youngest of the celebrated 'sulphurous sisters,' as a letter writer has called these springs. It is in Greenbriar county, on the great road leading across the mountains, 12 miles west of Lewisburg, and 21 west of the White Sulphur. The spring is situated in a beautiful little valley, on the bank of a very small stream, and is hemmed in by high hills and mountains on every side. The buildings for the accommodation of the visitors are extensive and conveniently arranged; and the lawn which stretches from them to the spring, is pleasant, and embellished with some beautiful sugar maples.

"Near the spring is a bath-house, which is kept in excellent condition. It is supplied with the sulphur water, either hot or cold.

"The quantity of water discharged by this spring is not very great. At the bottom of the spring lies a slight deposite, of a bluish purple hue. The water is not unpleasant to the taste."

We are indebted to a respectable physician of Western Virginia, for a few paragraphs on the effects of this water.

It is diuretic—moves the bowels without pain—excites the liver to increased secretion—determines an action on the skin—and regulates the uterine functions, in amenorrhœa, dysmenorrhœa, and leuccorrhœa. It sometimes seems to exhilerate the general system. It has done much good in dyspepsia and diseases of the liver. Bathing in it, has relieved rheumatism. In gleet it has been found decidedly beneficial. Applied to the skin it has cured herpetic eruptions. Some cases of incipient scrophula have yielded to its use. In one case at least, known to our informant, it not only righted up a constitution deeply impaired by intemperance, but seemed to destroy the desire for ardent spirits! A notable exhibition of its powers.

The Hot Springs.

We derive from the traveller already quoted, the following notice of these springs.

"They are situated directly on the great road from Guyandotte

*B. Drake, Esq.

to Staunton, in one of the narrow vallies with which the mountains abound. The scenery around them is sublime. For three or four days past, we have had frequent, but not copious showers. The weather is now serene again—the sky of a light blue—the air dry and elastic—the sun bright, but not intensely hot. The thermometer seldom rises, during the summer, higher than 85 degrees; and in the valley where I am now writing, there is rarely a foggy morning, though the mountain tops are often hid by a thin mist, which, as the sun rises, passes off in the form of clouds, presenting a beautiful tracery of vapour, assuming a thousand fantastic shapes, and an endless variety of hues. Life in the mountains is truly delightful: it seems to produce a buoyancy of the physical and intellectual man, that is not often felt in a champaign country. The towering pine-covered peaks—the bare and beetling cliffs—the quiet little valleys, through which the rivulets wend their way—the rapid alternations of sunshine and shower, and the varying and gorgeous clouds, now coursing, now reposing on the mountain tops, while stage after stage comes dashing down the winding turnpike, with the pealing notes of the horn echoed from cliff to cliff,—these are magical in their combined effect, and kindle up the imagination and the feelings, to a point of bright and joyous enthusiasm.

"There are five separate and comfortable frame houses, with dressing rooms and fire places, in which the baths are taken. The boiler or sweat bath, for gentlemen, has a uniform temperature of 106 degrees; while that of the ladies' boiler is 103. The gentlemen's hot spout bath, in which the water falls in a copious stream from a height of four feet above the surface of the pool, has a temperature of 106 degrees; the ladies' hot spout bath being the same. The two pleasure baths, one for either sex, are of the temperature of 98 degrees. The pool, in all of these baths, is large enough to afford the exercise of swimming; the water being about four and a half feet in depth. The spout baths are more frequently used than any others. The water, when it first falls upon the body, produces a sensation of scalding; but in an instant, more pleasurable emotions ensue. The usual period for remaining in the spout bath, is from twelve to fifteen minutes. The boiler bath is so constructed, as to exclude, in a great measure, the external air. In taking this bath, the individual usually remains in the

water until perspiration commences; he is then wrapped in blankets, and laid upon a cot in one of the ten or twelve little rooms, connected with the bathing-house, where he is left for 30, 50, or 60 minutes, until the perspiration becomes most profuse, and often penetrates blankets and mattrass, and even trickles to the floor. The covering is then gradually removed, and the body cooled by degrees. Under this course there is but little danger of taking cold; and the effect, in chronic disease of long standing, is, in many cases, truly wonderful.

"The attention of Dr. Goode, the intelligent, moral and hospitable proprietor, has been chiefly turned upon the bathing department.

"The long celebrated Hot Springs, is to the rheumatic, the gouty, the lame and the halt, what the Red Sulphur Spring is to the consumptive—the fabled fountain of rejuvenescence. Out of the one hundred persons now here, it would not be an easy matter to form a cotillion, unless cripples, crutches and canes were tolerated in the dance. However, if the visiters cannot gracefully 'trip it on the light fantastic toe,' they would at least make capital soldiers; for in case of an attack, it would be quite impossible for them to run away."

By an application to Dr. Goode, we lately obtained a considerable mass of interesting facts, concerning the curative effects of the Hot Springs, of which we shall avail ourselves, in the composition of the remainder of this brief notice. In this letter the Doctor says, "These waters, when taken internally, are *antacid*, mildly *aperient*, *powerfully diuretic* and *diaphoretic;* and when used externally, they *equalize* an *unbalanced circulation—promote glandular secretion—excite the action of the absorbent vessels—and allay pain.*"

Dr. Goode's letter encloses the certificates of 10 or 12 gentlemen, from different parts of the United States, setting forth the benefits they had derived from visiting these springs.

One of them had a chronic inflammation of the tonsils, and upper extremity of the larynx. He took 42 sweat baths, sojourned at the spring 57 days, gained 22 lbs. of flesh, and left them with a voice nearly restored, and his general health much improved.

Another had derangements of the abdominal functions, with enlarged spleen, bulimia, and an uncontrollable diarrhœa, of two or three years' standing; the consequence of cholera, bilious fever,

and ague, in a southern climate. In a few hours after using the hot bath, he had a bilious dejection, which had not occurred before for eight months; in four days, his diarrhœa ceased, and the alvine discharges became natural, his spleen was soon reduced to half its preternatural dimensions, his complexion improved, and in short all his symptoms gave way. This patient was a medical gentleman.

A third, after suffering for years with chronic rheumatism, in nearly all the joints of his body, and being reduced to a state of great decripitude, was entirely cured, by 45 bathings, between the months of July and September.

The effects of these waters on another rheumatic, were still more remarkable. He was attacked with the disease in an acute form, in January, and, in the following July, was so much debilitated as to require two assistants, to put him in his carriage. He remained at the springs 63 days, and took the bath 60 times, during which he gained in weight 60 lbs. The cure was perfect and permanent.

A gentleman afflicted for months with a neuralgic disease of one of his arms, till it wasted away to an alarming degree, and his general health and strength declined, was taken to the Hot Springs, and employed the bath and blankets 40 times in the course of two months, when he was perfectly restored.

Another, afflicted with gall stones, attended with gastrodynia and jaundice, was *relieved* several times, by visiting the White Sulphur, when he determined to try the Hot Springs. The spout bath, in eight or ten days, effected a perfect cure.

A lady who had been in bad health for more than 15 years, and whose liver was so much enlarged as to project palpably beyond her ribs, visited the springs. While there, she used some aperient medicine, and was bled, but resorted to the baths, diligently, for about a month, when the enlargement of the organ was entirely removed, and she returned home in, comparatively, good health.

A gentleman, by what was regarded as a functional disease of the liver, was greatly reduced in strength, the tone of his stomach was impaired, and his bowels so torpid, that for more than a year, he had had no alvine evacuations without the aid of enemata. His weight had fallen from *two hundred and eighty*, to *one hundred*

and thirty pounds! After using the bath for five or six weeks, he left the springs, greatly improved. During the next 12 months, he gained 100 lbs. in weight, and at the end of that time, considered his health as perfectly reinstated.

Another gentleman, after repeated attacks of dysentery, was left with an obstinate mucous diarrhœa, which continued for more than three years. He tried the White and Red Sulphur Springs with but partial success; when he determined on visiting the Hot. The spout bath was directed over his liver and back, with immediate and surprising relief. In a few days the diarrhœa ceased, and the pains in his abdomen, with which he had long been afflicted, both day and night, entirely left him.

These abstracts of documents, in which we have confidence, will show our readers, that the Hot Springs of Virginia are really and rapidly curative, in a variety of rheumatic and abdominal diseases. These are the affections in which the hot and warm springs of Europe have long been celebrated. It is to be regretted, that in the extensive valley of the Mississippi, we have no hot springs, except those of the distant Arkansas, which situated far in the south, are not attractive in summer. We are believers in the superior efficacy of natural to artificial hot bathing; and suppose that the internal use of the water of hot springs cannot fail, in general, to be productive of much benefit.

We have said nothing of the composition of the waters of which we have spoken, as the analyses hitherto made of them, are said not to be of the most accurate character. Professor Rogers, of the University of Virginia, the Geologist of the State, has, however, subjected them to a rigorous examination, and when his report shall be published, we propose to make it the subject of another article. D.

REVIEWS

AND

BIBLIOGRAPHICAL NOTICES.

Art. IX.—American Medical Schools.

*Report on the Organization and Administration of the Medical Schools of the United States.**

Notwithstanding the *extra limites* of our last number, presented the entire Journal of the late Medical Convention at the Capital of Ohio, we propose to reprint, in this place, one of the reports adopted by that body, for the purpose of discussing some of its propositions. They are as follow:—

1. "*Resolved*, That in the opinion of this Convention, the sessions of the different Medical Schools, throughout the Union, are too short, and that they ought to be extended one month, and the students required to stay to the *end* of the term.

2. *Resolved*, That the number of Professorships is too few, and that ampler provision should be made for teaching Physiology, Pathological Anatomy, Pharmacy, and the Natural History of Medicines, Botany, Comparative Anatomy, Meteorology, Medical Jurisprudence, and Mental Physiology.

3. *Resolved*, That, if practicable, our Medical Schools should be so organized, as that Students, in their first course, would have their attention chiefly directed upon Special Anatomy, Physiology, Chemistry, Pharmacy, and the other elementary branches; and their second upon Pathological Anatomy, Therapeutics, the practice of Physic, Surgery and Obstetrics.

*Proceedings of the Medical Convention of Ohio, at Columbus, January 1838.

4. *Resolved*, That in admitting Candidates to examination for degrees, a stricter examination than is at present shown, should be had to their preliminary education.

5. *Resolved*, That the practice of graduating young men, before they are 21 years of age, should be abandoned.

6. *Resolved*, That no Pupil ought to be graduated before the end of four years, from the time he commenced the study of Medicine.

7. *Resolved*, That, if the various Schools of the Union, were to send representatives to a meeting at some central point, to confer together, many of their existing defects, by a simultaneous, co-operative effort, might be successfully remedied, and that we, respectfully, recommend such a Convention to be held. Till when it would not be practicable, nor should it be expected, that any single institution will attempt the reforms which are here proposed.

8. *Resolved*, That the Corresponding Secretary be instructed to send a printed copy of the Proceedings of this Convention, to all the Medical Institutions of the United States, with a letter, calling the attention of their Professors to these Resolutions."

Before proceeding to comment on these resolutions, we must express our joy, that a portion of the profession, in a primary assembly, have ventured to speak out, and fearlessly indicate some of the existing defects, in the organization, conduct and administion of our schools.

We regret that the committee charged with this subject, did not prefix to their resolutions, a report on the necessity of what they have recommended. It would have rendered the labors of the Convention, on this point, more effective. Their first resolution, however, contains suggestions in which every reflecting member of the profession must concur. That the lecture terms, in all the schools of the Union, are too short, is undeniable. Why, we would ask, should they be shorter than those of European schools? Is there one science for the old, and another for the new world? Is the acquisitive power of the young man of America, greater than that of the young man of Europe? Is his diligence superior? All these questions, we apprehend, must be answered in the negative—especially the first and last; and, if so, a brief and superficial course of study, can no more make a *good* physician in the United States, than in Scotland, France, or Germany. Wherefore, then, do we persevere in sessions of 16, 13 and even 10 weeks; requiring, an attendance, moreover, on but two of these? It can only be, for the purpose of supplying our people with "cheap goods," for which, our elder brethren over the water, af-

firm, we have a sort of national *penchant*. With this taste we are not inclined to quarrel, while it is confined to wares and merchandize; but when it extends to scientific qualifications, in the most responsible and difficult of all the professions, we have little disposition to see it gratified. It is criminal to tamper with human life, and those who conduct our medical schools, should not feel themselves at liberty to be accessories to such a crime. When, however, they depress the standard of medical knowledge, to the attainments which can be made in two sessions of a few weeks, they are, in fact, the real authors of the mischief. It is not to be expected, that students, (or, at least, the mass of them,) will find fault with this easy method of becoming *doctors;* and the corrective must be applied by their teachers. Were our sessions extended a month, by a concert of action throughout the Union, our students would quietly acquiesce in the change, and all the ambitious, inquisitive or conscientious among them, would rejoice at the innovation. We would even go further, and carry the extension to two months, the effect of which would be, to diminish the *aggregate* number of practioners, while it greatly increased the proportion of the thoroughly indoctrinated.

But the resolution declares, by implication, that, short as are our sessions, the pupils are not required, and do not see them out. Impatience is an American characteristic; and this trait, instead of being corrected, is directly cherished, by the laxness of our regulations. What can be more absurd, than to see our students dispersing, when a short course of lectures is yet unfinished? And still nothing is more common; for it prevails in all the schools of the Union. We have seen students back in the valley of the Mississippi, while the lectures which they had travelled 700 miles and paid their money to attend, were still going on in an eastern city. This was not the fault of the lectures, but of the lecturers, who did not decree, that credit should not be given for a course, which was not attended to its close. Were this the law of all our institutions, the impatience of our pupils would be abolished, and their acquirements greatly augmented. Every student ought, therefore, to be required to take with him a ticket of valediction, not less than of matriculation; and this, except for *special* reasons, should never be issued till the last valedictory was pronounced.

We cannot but cherish a hope, that this regulation, together with an extension of the term, will, at no distant day, be adopted by

all our schools. The effect on the American profession would be instantaneous, and, in all respects, salutary. An immediate elevation of professional character would, indeed, be the consequence, and society as speedily come in for a share of the benefits.

The second resolution furnishes a strong argument in support of the first, and ought, indeed, to have preceded it in the series. It looks directly to the limited range of studies prescribed and pursued, in nearly every school of the Union. Indeed, we may affirm, that there is not one, in which the cycle is as comprehensive, as the nature of the medical profession demands. In most of our institutions, descriptive anatomy, chemistry, materia medica, surgery, obstetrics, and the practice of physic, taken in their ancient and restricted limits, are nearly all that is taught. But, if a student be not well instructed in general anatomy, physiology and morbid anatomy, how can he understand pathology, and the principles of surgery? If he do not know the physiology of the mind, how can he successfully study its diseased manifestations? If he be ignorant of botany, organic chemistry, and pharmacutic manipulations, to say nothing of mineralogy and geology, does he not come up to the study of materia medica and the art of prescribing, in a state of most hopeless deficiency? How can a teacher of the theory and practice, discuss the orgin of many large groups of diseases, before students, who are unacquainted with the laws and operations of the atmosphere? Finally, with what success can a physician acquit himself, as a witness, before a judicial tribunal, if he be ignorant of medical jurisprudence?

Each of these questions suggests its own answer. In truth, the branches here enumerated, should be regarded as essential links, in the chain of professional studies; and without a better knowledge of them, than can be had in *any* of our schools, the student cannot be regarded as adequately prepared for the duties of his profession. Several of these sciences, or new applications of science, are of modern development, and show us, that with the progress of discovery and invention, the labors of the medical student are increased, not diminished. Some of them require separate professorships, or, at least, lectureships; and hence the number of chairs in our institutions ought to be augmented, and with this augmentation should come lengthened sessions; that our students may not be oppressed by too many lectures daily.

Of the third resolution we scarcely know how to speak. In theory, it is undoubtedly correct; but how, in this case, can practice be made to accord with principle? It is not only absurd, but actually injurious, for the student who has recently commenced the study of medicine, and is not yet acquainted with the structure and functions of the body, with chemistry, or the rudiments of botany and zoology, to engage in the high and difficult inquiries of pathology and practical medicine; and, still, in the present organization of our schools, this is constantly done. The *beau ideal* of collegiate medical instruction, would be for students, in their first course, to devote themselves to anatomy—special, general and pathological, with dissections; to physiology—corporeal and mental; to chemistry, pharmacy, and the classification of medicines; and to so much of the history of the mineral, vegetable and animal kingdoms, as is necessary to a due understanding of the two last;—and in the second session, to give their chief attention to therapeutics, symptomatology, ætiology, practice, surgery and obstetrics. To do this, it would be necessary to class the pupils; an object, which, however desirable, would be of difficult accomplishment, for several reasons. First, a large number of them design (most improperly) to go into practice at the end of one course of lectures, and, therefore, wish to attend the whole. Second, each of them comes to the school, very differently advanced in the different branches, so that scarcely one would be willing to confine himself to the lower, and quite as few would be prepared to enter the higher class. Third, they visit medical schools to hear lectures—not to hear and *read* also; and would not, therefore, be satisfied with three or four a day; or, if they should, the true reason with many of them would be, that it left them more time for listlessness and recreation. It is greatly to be regretted, that private preceptors do not confine the reading of their pupils, in the early period of their studies, to the introductory branches, and send them, as soon as they have taken a bird's-eye view, and become somewhat familiar with technical terms, to a medical school; with instruction to limit themselves to the lectures which are proper for the first session. After attending *it*, they should engage in a course of more practical studies, and then return to the university for graduation. On this subject, the report of Dr. Gans, in the Proceedings of the Convention, contains some very sensible

recommendations. It is to be feared, however, that for a long time to come, our brethren, who do not reside in the immediate neighborhood of medical schools, will think, or at least *act*, differently from what is here advised; and equally to be apprehended, that those who prescribe the policy of our institutions, will neglect the establishment of junior and senior classes. Meanwhile, we may hope, however, that the students themselves, will become more and more deeply impressed with the importance of devoting the first session chiefly to the elementary branches, and the second, to the practical.

The fourth resolution, relating to the defective *preliminary* education of students of medicine, presents a subject of the deepest possible interest, especially in the Western States. The first cause of the whole difficulty was the abolition of the requirement, that inaugural theses should be written in Latin. But this abolition itself had a cause, which was the limited cultivation of classical learning in the United States, and the general deficiency of good seminaries. If Latin theses had still been required, none who had not made respectable elementary attainments, would have been put to the study of medicine. Such a restriction, it must be confessed, would have kept many from the study of medicine who might have become useful, and even eminent, but it would have excluded a much larger number, whose preparatory education and early mental discipline, were totally inadequate; and who never overcame these disadvantages. Their places, moreover, would have been occupied by candidates for the profession, better prepared in these respects,who have been turned into other pursuits, by the crowd which has been invited to the temple of medicine. When any and every mouth could utter the magical "open sessame," enough would always be found to pronounce it. The resolution before us seems to intimate, that the remedy for this evil is with our schools; but, we rather think it lies as much with private as public preceptors; indeed, still more, for if the former would not receive unprepared young men as students, they would not be thrown on the latter. The recommendation is, however, a good one; and if acted on with vigilance and firmness, both young men and the physicians with whom they propose to study, would soon learn the necessity of a more careful literary preparation.

The fifth resolution refers to the practice, prevalent, more or less, in all our schools, of graduating candidates before they are 21 years of age. Now, we have no doubt, that many youth make greater attainments by 19, than others by 25; but attainments are not all that is requisite to a correct and successful practice of the profession. A ripe and sound judgment, is equally indispensable, and this is seldom acquired, even by 21. If the rule of not granting diplomas, unless the candidate had arrived at that age, were rigidly observed, which we know is not the case, our youth would prolong their *scholastic* studies, (a great *desideratum*,) and not come up to the practical duties of the profession, till their minds had acquired such maturity, as would enable them to use their knowledge with judgment and effect.

The sixth resolution is connected with the last. It expresses as the opinion of the Convention, that four years of pupilage should be required, as a condition to graduation. What will those physicians think of this, who encourage or permit their students to go into practice at the end of 18 or 24 months, without having, perhaps, even attended one course of lectures during that brief period! A frightful number do this—and apparently feel as little compunction, as the self-conceited stripling, who knows not his own defects, and is even unable, afterwards, to appreciate their sad consequences, to the honor of the profession or the happiness of society. For ourselves, we do not hesitate to say, that the universal and unalterable law should be—*at least* FOUR *years of study.* We may be told, however, that but few of our students have the pecuniary means of continuing their studies throughout such a period. But can this change the principle of duty, or the nature of things? They who have not the means of qualifying themselves for a vocation, should not attempt it. The advancement of the science, and the *able* and faithful discharge of its practical duties, should be regarded as objects of higher importance, than the gratification of a desire, in any individual, to belong to a profession, for which, unfortunately, he may not have the means necessary to prepare himself. We know full well how to sympathize with the destitute in means, having ourselves been of that *genus;* but we know, also, something of the extent and depth of scientific acquirement, which the practical duties of physic and surgery demand, and cannot, conscientiously, grant, that more is

due to the feelings of a young man, than to the dignity of the profession, and the welfare of the community united.

The last resolution suggests, that if the various schools of the Union, would send delegates to a Convention, in some central city, they might devise correctives for many of the imperfections, in their organization and administration, which now exist. This could, undoubtedly, be done. Philadelphia is the proper place for such a meeting, and the University of Pennsylvania, should appoint the time and give the invitation. We cannot doubt, that it would be attended by delegates from every institution in the Union. In such a Convention, a multitude of subjects of the deepest interest, might be discussed, and many reforms and improvements, not merely suggested, but their simultaneous execution secured. As the charters of our schools are enacted by different sovereign states, they have no other connection with each other, than that which results from the national compact of those states. Hence the franchises granted are different, and much diversity in organization, requirement and fees of tuition, exists among them—excluding that uniformity, which would throw competition for pupils entirely on the talents of the professors, and the means provided for illustrating their lectures. No one denies, that the best of our institutions are defective, and that some of them must, from numerous imperfections (not personal) *ex necessitate*, send forth many superficial and incompetent *alumni*. It is high time that a remedy was applied; but how can this be done, without community and concert of action? In a country where a limited course of study, short sessions, and low fees, are so consonant to the taste of the majority of students, no change, for the better, is likely to be made in any of them, except it be simultaneous and general. Each institution will apprehend evil consequences to itself, should it advance beyond the rest; but a joint and common movement, would keep all in the same comparative state, while it elevated the whole—and with them, the science, dignity and usefulness of the profession.

We earnestly and respectfully commend this subject, to all who are in stations that will permit them to act upon it. The results anticipated by the Convention from the measure proposed by them, do not appear to us either visionary or exaggerated. We would, also, appeal to our brethren of the periodical press, and

exhort them to put forth their power. It is but a part of the duty and end of that press, to publish and republish matters that are purely scientific. The provisions made for the education of those who are to practise, and improve or deteriorate the science, should be taken up and fearlessly but courteously discussed. The American profession is yet in its forming stage, and requires for its full and beneficial organization, that the medical press should disseminate far and wide, its suggestions, opinions and strictures. The eight journals of the Union, are capable of wielding a powerful influence—they should feel their strength, and direct it against the causes, which impede the advancement of the profession. D.

Art. IX.—Diseases of the Larynx.

Traite pratique de la Phthisie Laryngee, de la Laryngite Chronique, et des Maladies de la Voix. Par MM. A. Trousseau and H. Bellog.

A Practical Treatise on Laryngeal Phthisis, Chronic Laryngitis, and Affections of the Voice. By A. Trousseau and H. Bellog. Ballière, Paris: 1837.*

Such is the title of a work which appears to be a prize essay, accepted by the Royal Academy of Paris; and it does great credit to its authors, who have evinced untiring research, and a profound acquaintance with medicine. M. Trousseau is known as a Professor attached to the Faculty of Medicine of Paris, Doctor of the Hospitals, member of the Legion of Honor, &c.

The diseases to which this work is devoted, are assuming a painful interest in the United States. They are often fatal; and their victims are frequently our most valuable citizens, clergymen, members of the bar, and public teachers. We hail, therefore, with pleasure, the production of Trousseau; hoping that his clear views of pathology, and his experience in the treatment of

*A young medical friend has favored us with the following analytical and abbreviated translation, of this valuable work, which we hope will prove acceptable to our readers. Editors.

these affections, will throw some light upon what have been justly considered obscure maladies, because of the difficulty of diagnosis, and the still greater difficulty that has existed, of administering efficient remedies. The therapeutic agents of M. Trousseau, and their application, appear at the first glance so perfectly simple, and founded upon such plain physiological and pathological facts, observed every day in other organs of the economy, that we only wonder nobody ever presented them before.

The book is divided into seven chapters, in which the history, causes, symptoms, treatment and terminations are fully and systematically presented. These we propose to examine in order, hoping fairly to give an abstract of the author's views, though encountering the difficulty ever attendant on studying them in a foreign language.

Our authors claim the most extended signification for the word *Phthisis;* which they define, "any chronic disease accompanied by hectic fever, and emaciation (*consomption.*)" Under this general head are included, chronic lesion of the kidneys, with suppuration and the consecutive hectic and marasmus; white swellings, Potts' disease of the spine, ulcerating cancerous tumours, &c. &c.; and they appeal, in support of this view, to custom, which has attached to the word Phthisis, specific names, pointing out the peculiar local origin of the series of symptoms in differeut cases.

Consumption being more frequently produced by pulmonary tubercles, than by any other anatomical lesion, some writers confine the term Phthisis to that affection, and apply to it this term, even before the system has suffered marasmus; but in such cases the *consumption* would not occur till the last stage of phthisis. Our authors complain of this use of the word, which they consider a perversion of its true sense, and likely to produce vexatious confusion in medical language. Thus we find it used to express the *presence* of tubercles in the lungs, the *state* of the patient who has them, and even the specific predisposition to them. A question proposed by the Academy, shows the extended signification they attach to the word, and that they apply it to other affections than the pulmonary. We must admit, with them, the necessity of terms of specific designation. One of these prefixes is laryngeal, and hence "laryngeal phthisis," is used to signify "a chronic affection of the larynx, able of itself to produce consumption;" but

admitting the possibility of such termination of laryngitis, it appears, from the numerous cases cited, that this is a rare occurrence; because, from the anatomical disposition of the parts, the patient commonly dies from suffocation, before arriving at the stage of true consumption—hectic fever with marasmus. Nevertheless, our authors say of such a death, that it was from *laryngeal phthisis*, and therefore give the more extended definition, "every chronic alteration of the larynx, which may bring on consumption, or death, in *any* way."

HISTORY.

Chap. I.—Messrs. Trousseau & Bellog affirm they can find very little information upon this subject, for even modern writers seem not to have had one precise idea respecting it. Hippocrates says not a word. What Galen has written shows his imperfect acquaintance with this lesion; and Aetius, so often cited, has almost literally copied Galen, and agrees with him, that these diseases are *easily* cured. Morgagni first gave detailed accounts of them; his cases, however, do not prove that he understood their true pathology, but supposed his patient would die from suffocation only. It is surprising, that his reflections did not lead him to consider more attentively the ulcers of the larynx of which he speaks, and to conceive the possibility of consumption arising from a succession of them, in the upper part of the air passages. Borsieri stated, that the larynx and trachea might become the seat of ulcerations capable of producing hectic; and he is the first who treated of the disease in its true sense, though he seems to have written under the influence of a preconceived theory, rather than from observation. We are also told, that M. Cayol seemed to comprehend the disease; that before him, in 1806, Messrs. Sauvée & Lagnelet had adverted to alterations of the larynx capable of producing laryngeal phthisis; about the same time, M. Double read, in an interesting paper, before the Medical Society of Paris, his opinions, that laryngeal and tracheal phthisis are one and the same thing, attacking the air passages a little higher or lower. Pravaz is, also, mentioned, with praise, for the care with which he gathered the histories of interesting cures. Above all, particular mention is made of the "precious" observations of Louis, Andral and Bouillaud.

Laennec is not mentioned, nor do these affections appear in his

writings; for his mind was occupied with the important affections of the chest, which could be detected by physical signs; but he seems to confine phthisis to the lungs, and from some of his remarks on croup, &c. he may have intended to include under it, what our authors call laryngeal phthisis. So much confusion arises from confounding different diseases under the same name, and by giving different names to the same affections. Mackintosh only separates *laryngitis*, which we understand to be the equivalent of laryngeal phthisis, from croup, by its locality; but admits that croup may involve the larynx as well as the bronchia. Good, in his Study of Medicine, class 3, order 2, gen. 7, species 5, has described under "empressma laryngitis," a disease distinct from croup, and mentions the chronic form. Beck and Morton, of our own country, have described the affection; and the latter agrees with Louis, in supposing it commonly a consequence of tuberculous softening in the lungs.

In *chapter II.* we find the *organic alterations* treated of, with sufficient minuteness—embracing not only the lesions of the larynx, but those of the pharynx and its appendages, and the trachea and bronchia, with their ramifications. The anatomical lesions of the larynx, which we conceive, more especially, to belong to the disease before us, are divided into two great classes affecting the mucous membrane and the cartilages. We are reminded "how fallacious is redness as a sign of previous inflammation, so much insisted on by some pathologists, and of the frequent mistakes which may arise from that fruitful source of error, when we remember, that how bright soever it may have been during life, it may completely disappear after death. A want of due attention to this, has led Bayle and others to consider a pale and tumefied state of the aryteno-epiglottidean ligaments and vocal chords, sufficient proof of œdema, and as evidence against active or chronic inflammation; but our authors consider the enlargement, without redness, of the lips of the glottis, a certain sign of inflammation, and that this enlargement itself, may, in some degree, disappear; whereas, redness is often caused by infiltration to the most depending parts, after death, and is unconnected with disease. "Grave errors have arisen from the neglect of these plain truths, and theories respecting laryngeal affections, otherwise very ingenious, have been based upon the wrong impression of facts. Thus

"spasmodic croup" has been established by nosologists, to account for the death of infants, when autopsy showed no false membrane, nor anomalous redness, nor swelling sufficient to produce suffocation. This division of disease would disappear from our catalogues, (where alone it exists,) if more correct views of the pathology and anatomical lesions were obtained; in the same way, when, in the course of a laryngeal phthisis, suffocation has closed the scene, as the swelling and redness may not always suffice to explain this sad termination, asthma, or some other nervous accident, has been introduced to account for it. Œdema of the mucous membrane of the larynx, a rare disease, has been made to assume an important place; it was sufficient to see the vocal chords, the aryteno-epiglottidean ligaments, tumefied and discolored, without very evident traces of inflammation, to make a new specific disease, "œdema glottidis." This disease is not denied; but tumefaction, even without color, is generally evidence of a phlegmasia.

Ulcerations are divided into erosions and ulcerations proper.

Erosions involve only the mucous coat; the ulcerations are seated in the subjacent cellular tissue, or carious cartilage. Our authors agree with Louis, that the pus of phthisical patients may produce ulcerations, and this more commonly in the larynx than the trachea.

Ulcerations sometimes invade the whole larynx, the chordæ vocales, the aryteno-epigottidean ligaments, and the mucous membrane of the epiglottis; still deeper, they attack the cartilages, which become necrosed or carious, generally commencing in the mucous membrane, though cases are cited, where they communicated directly with a necrosed cartilaginous surface.

Among the alterations of the cartilages, including the epiglottis, the most interesting is ossification, which is considered a purely physiological phenomenon, the result of age; seen also in laryngitis of two years' standing, even in young patients. The analogy between this and callus, from inflammation, consequent upon fracture of the bones, is well explained; and we are called upon to admit, that "the inflammatory afflux in the neighborhood of the periosteum, or cartilage, raises an action in these tissues, in virtue of which there is an osseous secretion effected, which is a singular phenomenon, as inflammation produces the same results as

senile weakness. The same facts applied to the cartilages of the larynx, make us understand how, in laryngeal phthisis, ossification is so common and premature a phenomenon." The ossification, we are told, is developed by irregular plates upon the surface of the cartilage, sometimes extending the whole thickness at certain points, or, if general, the flakes from opposite sides are represented as advancing to meet in the middle. The posterior surface of the cricoid is most easily affected, next the thyroid; the arytenoid have never been seen ossified. Our authors do not deny the possibility of such an occurrence, but suppose it to be rare. One case was met with, in which the perichondrium was ossified; this is analogous to the lesion of the costal cartilages. It is insisted, that ossification may exist without any ulceration or erosion, but simply in a case of chronic laryngitis, and be separated by hypertrophied cellular substance, from the ulcerated surfaces.

Necrosis of the cartilages appears very frequently, having been discovered in more than half the examinations. As this lesion has scarcely been hinted at, by other writers with which we are acquainted, the authors shall speak for themselves:

"The necrosed portion is always completely denuded. This is a permanent pathognomonic sign; for dead parts will ever separate from the living; but this separation takes place in a peculiar manner:—the necrosed portion is never covered with cellular tissue, but always completely denuded on its external face; and reposing upon it, is the pus, either secreted at the point of contact, or the bottom of a fistulous track opening into the larynx. Thus sequestra may be formed, and though the separation rapidly takes place between them and the soft parts endowed with great vitality, it is not the case with the cartilage, but the sequestrum requires a long time for its elimination. The necrosed portion is always ossified, though in fevers of a grave type we sometimes find in the larynx, necrosis of the cartilages, without ossification."

In explanation of this, our authors, thinking that ulceration is mostly, if not always, the cause of necrosis, refer us to the law, *ubi irritatio ibi fluxus*, to account for the osseous effusion into the cartilage subjacent to the inflammation. Then, the ulceration reaching the ossification, the latter becomes necrosed the more readily as it is imbued with less vitality than sound cartilage. This is a very plausible explanation; the more so, as, from an examination of the cases, we find caries, instead of necrosis, when the disease runs its course rapidly; and when it occurs in young children,

whose cartilages are yet endowed with great activity; further, we are assured, that the arytenoid ligaments and the epiglottis, have never been found ossified nor necrosed, but always carious when affected. Caries, however, appears less common than necrosis; it has often been observed in the rings of the trachea, never in the cricoid cartilage, once in the thryroid, three times in the arytenoid, once in the epiglottis, in the course of two years. In caries, the ulceration commences in the mucous membrane; increasing rapidly, it extends to the submucous cellular tissue, so as to reach the perichondrium and cartilages, in a few months, or perhaps weeks. This extreme rapidity is explained by the coincidence of tubercular pulmonary phthisis, and by resembling its fatal tendency to ulceration and suppuration. Examining the carious parts before dissection, we are told that the bottom of the ulceration resting upon the cartilage is active, and possessed of considerable vitality; the dissected cartilage is eroded, and appears gnawed. In some instances this erosion has completely destroyed the epiglottis and arytenoid cartilages, and in one case the thyroid was perforated, as exhibited in one of the plates. Andral mentions a similar case, where a perforation at the angle of the plates of the thyroid, established an air passage.

These lesions do not occur singly, but are almost always accompanied by other alterations yet more alarming. Indeed, it is impossible, that deep ulceration, caries or necrosis, should exist without considerable inflammatory engorgement, existing in the mucous membrane and subjacent cellular tissue. This is what has been called *œdema* by Bayle, and becomes the immediate cause of death by suffocation. The name is altogether objected to in the work before us. The œdema glottidis of Bayle, which has given rise to so much discussion among writers, being supported by some of the highest in the profession, and utterly denied by others. Trousseau says, he has established, by nine dissections, two of which were acute cases, developed by a violent catarrh and by bronchotomy, and seven were chronic. Five of these were accompanied by necrosis, caries and ulcerations—two by ulcerating tumours of the larynx.

The remainder of this chapter is occupied with the alterations which, commonly, occur in laryngeal phthisis. Among them, polypi are mentioned; but appear very rare. May they not have

been causes of the disease? The case observed by Trousseau is highly interesting, as it exhibits a "tuberculous or polypous" tumour, without any organic pulmonary lesion. Vegetations, syphilitic and cancerous have been observed, but are uncommon. Tuberculous tumors, or granulations, when existing coetaneously with tubercle in the lung, may or may not be ranked with tubercular productions. Louis says, tuberculous granulations are not found in the air passages; whence he concludes, that we should regard these affections as the result of inflammation. Andral (*Clinique medicale*) thinks they are not tuberculous. Our own Morton admits, with Louis, that laryngeal and tracheal ulcerations, are commonly consequent upon tubercle of the lungs, and may be excited by the pus in expectoration; but he acknowledges they may exist independently of any pulmonary affection. Tumours in the neighborhood of the larynx may often simulate laryngeal phthisis, and may cause every symptom of phthisis. In one hundred and two subjects, examined by Louis, eighteen had ulceration of the epiglottis, twenty-three had ulcerations of the larynx, thirty-one lesions of the trachea; from which we see that the frequency of ulcerations increases as we approach the lungs. In the eighteen cases of ulceration in the epiglottis, twelve were in men, six in women; five times they were not complicated with other lesions. They were generally superficial, twice only they reposed on the fibro-cartilage, and, one case excepted, they were on the laryngeal face of the organ; in four cases the circumference was eroded; once it was completely destroyed. The lesions of the larynx, twenty-three times seen in one hundred and two cases, were sixteen in men, seven in women, twice only they were not complicated with either epiglottis or trachea. Of the thirty-one cases of lesion of the trachea, there were twenty-two men and nine women, the site was generally near the bifurcation, the cartilaginous rings were frequently eroded or destroyed; in five cases only, the mucous membrane was destroyed over the whole of the membranous portion of the trachea. Hydatids are mentioned, but must be very rare. False membranes are spoken of, as one of the alterations; but here we are trenching upon another disease—cynanche trachealis, or laryngitis of our writers. Calculi have been observed by Pravaz and Lieutaud. Foreign bodies may be introduced, and cause immediate suffocation, or subsequent phthis-

is. Though from the commencement of this century, and since Cayol's monograph appeared, most writers have made a distinction between laryngeal and tracheal phthisis, our authors reject the arrangement, and with reason, since no one contends that they do not arise from the same circumstances, under the influence of the same predisposing or exciting causes; and, when sympathetic, the same diseases occasion both. They do not consider the distinction useless, but that it is not sufficiently important, to make two distinct affections, which grow out of one cause, with the same anatomical lesion, and with symptoms and treatment differing so little.

The *third chapter* treats of causes, and is introduced by our authors, as follows:

"Laryngeal phthisis is not a disease *sui generis*, as it is nearly always presented with analogous forms. It may exist alone, and without our perceiving any thing in the economy to explain its development, but is generally a consequence of some organic lesion, which, once established, becomes a true cause."

We will not stop to discuss the correctness of this plan; but it is evident, that the organic lesions alluded to, must be of an extremely varied character; and if we embrace them all under the head of laryngeal phthisis, because they generally provoke nearly similar symptoms and functional disorder, depending rather upon a specific afflux to the organ, than upon their intimate nature, we must review the whole nosological table. Our authors enumerate a great many ways, in which they think the disease has been excited; in some, perhaps, we may be allowed to think, they had no better argument than "*post hoc ergo propter hoc*"—so slight does the connection appear; but they refer principally to phthisis pulmonalis, and, in general, to those constitutions which are most apt to develope chronic ulcerative diseases, especially the scrofulous and tuberculous. In regard to the effects of age upon the susceptibility to this disease, we find the same opinions advanced by most authors:—it is rarely developed before 20, nor after 50 years. From Louis' beautiful work on consumption, it is found that in the tuberculous, at least, there are two men affected to one woman.

In the next chapter, we are informed of the different "species," or, perhaps, it would be more correct to say, varieties under which

it may be presented; and, indeed, in reading some of the cases, we could not refrain from making, in our own mind, a very different diagnosis, and merely considering this disease as a manifestation of laryngeal symptoms. There is a great difficulty in classifying diseases, so as to satisfy both the spirit and truth; indeed, the great defects in all attempts that have been made to classify diseases, almost induce the belief, that a correct nosological table would be a superhuman labor. For diseases are complex things, as our authors observe, depending, at the same time, upon the causes which produce them, the constitution of the patient, and so many circumstances that may modify one or the other, at every moment, that what may have been true in one case, will not be so in another, nor even in the same, after any change in surrounding circumstances has taken place; further, "diseases are functions, and not things," and these anormal functions may, like normal ones, vary in every individual, and in every condition of life. Whether we class diseases according to symptoms or anatomical lesions, which are both cause or effect, we shall omit one of the elements of the problem, and have defective classification.

Our authors make four species depending upon their causes:—

1st. Simple laryngeal phthisis—our laryngitis—the empressma laryngitis of Dr. Good. This, though long contended, is no doubt sometimes found unconnected with any other morbid derangement. It is generally believed to have been fatal to our Washington. *M. Double* was the first who proved the separate existence of this form of disease. He says, "without doubt, laryngitis is, in most cases, connected with tubercle of the lungs; but it is in many cases unaccompanied by any such lesion; many cases have, by symptoms, ausculation and autopsy, established this proposition."

2d. Syphilitic laryngeal phthisis, is that produced by venereal ulcers, primitive or consecutive, whether they attacked the larynx in the first place, or were propagated from the pharynx.

3d. Cancerous, from a cancerous tumour in the larynx. These two, depend too much upon accident, to constitute separate species; and might, with great propriety be placed with the preceding or the following, upon the clearer specific distinctions which separate them.

4. Tuberculous laryngeal phthisis, which appears by far the

most common form, embraces all those which commence after the manifestation of pulmonary tubercle.

Perhaps, say our authors, there may be another species, the *tetter*, or *ringworm*, (*dartreuse*,) but they do not seem to have made out the case very clearly, and so we leave it.

We now come to a more important department of the work—the symptoms—which are first given as generally appearing in laryngitis; then those presented by the different forms; and some notice taken of the diseases likely to be mistaken for it.

"The local symptom of most value is the alteration of the voice, sometimes a simple weakness, at others a hoarseness, either constant, or only occurring after the larynx becomes fatigued, or the patient is exposed to change of temperature; and it is somewhat singular, that an elevation has most effect, but such seems to be the fact. The hoarseness increases towards evening, and when the patient is hungry; and is diminished for a short time after eating or sleeping. The voice is observed to become hoarser at the period of menstruation. At first intermittent, it becomes constant throughout. The physical signs of hoarseness are difficult to describe, but a practiced ear detects those which answer to certain alterations of the larynx. Some hoarseness will indicate a mucous or broken sound, which proves that the column of air is not free in its passage. This we call the *mucous*. It is heard in simple colds—indicating simple catarrhal affections. In other cases the voice is hoarse, unequal and rough, which we call *strident*, or stridulous. This is a grave symptom, generally answering to ulceration or vegetations."

By aphonia, we mean a complete abolition of the faculty of producing sounds. It comes on suddenly in the second stage of the disease, and is a bad symptom. Its severity is always subordinate to several conditions, which singularly modify it. That aphonia which comes on suddenly in the acute form, and persists in the chronic stage, is not nearly so troublesome, as that which comes on gradually; nor is it so severe after the mucous hoarseness, as after the stridulous."

Several peculiarities in the alterations of the voice are mentioned, all very interesting as philosophically dependent upon the changes effected in the calibre and action of the larynx.

The cough appears to offer nothing particularly instructive, it is generally more frequent, and fitful. The sound of the cough always participates with the voice; it takes a peculiar sound in the stridulous hoarseness, which is called *eructante*, because when the patient coughs, he seems to make a suppressed eructation. This is always a sign of serious alteration of the larynx, and that the glottis is unable to move, or that ulceration prevents its being closed. The difference in frequency of the cough is inexplicable.

With some patients it is incessant, so that they cannot enjoy a moment's repose, and the aliment they attempt to swallow, is ejected by the expiratory muscles; others, whose autopsy may show the same lesions, have scarcely coughed, and have only succumbed under the asphyxia produced by the swelling of the mucous membrane of the larynx.

The expectoration furnishes signs which are rather negative than positive. It is commonly mucous, transparent, little tenacious, sometimes very abundant. When there is ulceration, some new signs are observed, little puriform masses, often mixed with striæ of blood, or quite bloody, are thrown off, rather by hawking (exscréation) than by a cough.

It appears that pain is not a constant attendant upon the disease, being absent in more than half the cases; and it is somewhat remarkable, that those who suffered a little in the onset, when the disease was acute, ceased to suffer when the mucous membrane and the cartilages were entirely destroyed by ulceration and necrosis. With the smaller number there is a little pain in the larynx, and especially at the origin of the trachea; but this does not greatly incommode the patient; on the contrary, nearly all suffer acutely in deglutition, when they do not feel the effort of speaking. This, we are told, is because the mucous membrane investing the epiglottis, the aryteno-epiglottidean ligaments and the arytenoid cartilage, is almost always the seat of considerable inflammatory engorgement; but this part of the larynx constitutes the anterior wall of the pharynx, and no effort at deglutition can be made, without pressing against these inflamed and often ulcerated parts; but when we touch the larynx in front, and through the skin, the inflamed mucous membrane is protected. Add to this, the greater degree of sensibility of the membrane at the upper part of the larynx, than at its interior, as has been observed in tracheotomy.

The signs obtained by sight, enable us to judge it probable, that the larynx is affected when we observe inflammation in the pharynx, combined with other symptoms of laryngeal affection; and the exploration of the epiglottis is of extreme importance, for though it be attached to the tongue, it must be considered pathologically as an appendix to the larynx, and generally partakes of its lesions. How are we to see it? "By the aid of the speculum

laryngis;" but there is not one patient in ten who can bear its introduction. The glottis is altogether out of sight with the speculum, even in the dead subject.

Our authors very ingeniously explain the absence of swelling on the anterior part of the neck, (which they have never seen, in simple laryngitis,) by the interposition of the cartilage, between the subcutaneous cellular substance and the inflamed lining membrane of the larynx, and add, that it is remarkable it should so seldom occur, even in cases of considerable necrosis, or caries of the cartilages. In a very interesting case which has fallen under our notice, which we think, in this classification, would rank as a simple laryngitis, now chronic, there is a considerable enlargement around the thyroid cartilage. We can learn very little from touch; the crepitus which some writers have observed, has been found in a sound larynx; touching within the mouth is confined to the epiglottis, and to a second of time, before the convulsive action of the parts prevents our continuance of the exploration.

"The signs furnished by respiration are next in importance to those of the voice. In the first stage, nothing very remarkable is observed, unless under peculiar circumstances, and after violent exercise, when the inspiration is a little braying. As the disease advances, the oppression increases; both from the affection of the lungs, if that exist, and from the narrowing of the larynx; as this goes on, the inspiration becomes hissing, and the expiration long and braying; the patient experiences a sense of imminent suffocation, with great anxiety; the fit subsides, but the orthopnœa continues; then the paroxysms are renewed, with increased strength and frequency, until, at last, the patient dies suffocated. The description of the sufferings endured is harrowing to the feelings; but death is preceded by a calm. The time which elapses between the first fits of orthopnœa and death, is usually from fifteen to twenty days; during the last five days, the fits recur more than once, during twenty-four hours. The course and order of these symptoms are very important, because they offer the only means of deciding the propriety and time for tracheotomy." "Bayle and Thullier have insisted, that inspiration is much more difficult than respiration, when the aryteno-epiglottidean ligaments are affected with œdema. This is explained, by the doubled velocity with which the air traverses the glottis during the inspiration, and it produces a hissing sound in other states of the larynx, not observed in expiration; it does not arise then from the free and œdematous edges of the ligaments being forced into the larynx during respiration. This imagined engulphing of the superior borders of the larynx is not so easy as supposed. Indeed, in inflammatory œdema—and it is nearly all of that character—the consistence of the mucous membrane and submucous tissue, is not flaccid, but, on the contrary, there is nearly always an extreme tension. It is true, we

may find these parts in the subject œdematized, and so flaccid, that they tremble, and may obey the impulse of air blown into the mouth; but besides the rarity of this phenomena, may it not be purely cadaveric?"

Autopsy shows us a fact, not explained by the symptoms—the incomplete obliteration of the larynx. Attentive observers know, that the glottis is never entirely shut, and that there still remains a passage for the air; from which our authors conclude, not that there was superadded a spasm of the bronchia to the disease of the larynx, and which was finally the cause of death, but that the swelling of the mucous membrane is, decidedly, diminished after death; and consequently the opening of the glottis may appear larger than it really was. But admitting that the same orifice existed in the glottis during life, it does not follow, that life could be sustained; for if there was not asphyxia in its most rigorous sense, an insufficiency of air would extinguish life in the same manner. During life, the glottis can never be entirely closed. That would induce sudden asphyxia, in the course of one or two minutes, instead of the slow asphyxia we observe in croup and laryngitis. If the glottis, having a capacity represented by four, necessary to healthy respiration, be reduced to a capacity of two, and if it be necessary to the aëration of the blood, that the volume of air should correspond to the normal capacity of the glottis, it is evident, that through one half less space, the lungs can receive but half the quantity of air that is necessary to sanguification. Under these circumstances, it is precisely in the situation of the animal in Bichat's experiment, whose blood flowed in the carotid of a vermilion colour, when the trachea was left open, brown when half shut, and black when entirely closed. When, then, the larynx is half closed, the blood is not sufficiently oxygenated, and asphyxia follows.

"Considering now the influence which the blood exercises on the nervous centres, and those centres back again on respiration, we can understand all the spasmodic phenomena, all the mucous symptoms which may occur, and the intermissions, as belonging to the nerves, without any need of recourse to "spasm of the bronchia," which no one has ever seen. To prove the existence of spasm, it is necessary to find some anatomical element, capable of explaining it. Muscular fibre has not been clearly made out in the bronchia; the fibres resemble muscle, rather in color than in texture, and a functional resemblance is wanting."

In several experiments made by Trousseau, upon the bronchia of animals, immediately after death, stimulating them in every way, he tried to rouse muscular movements, but could never succeed in exciting them, though the heart and muscles of the life of relation continued to offer signs of contractility. This enquiry is pushed to some extent; but we must refer to the book, which contains some admirable disquisitions. But for the sake of any who may entertain doubts—for we have high authority for the muscularity of the bronchia—allow us to introduce a very simple experiment:—laying bare the trachea of a horse, you may cut, tear, or stimulate the surface in any possible manner, and you will not perceive the least muscular contraction.

"In the numerous operations of tracheotomy we have performed, we have never perceived muscular contraction in the fibres of the trachea; and when we have penetrated the bronchia with probes, we have never felt any contraction of them on the whalebone, notwithstanding our sponges were often soaked with very irritating liquids."

The intermissions of the fits not being very clearly explained, by any thing we know of, they are turned over to a *law of our organism;* in which the pain manifests itself at intervals, &c. &c. In the case before us, the nerves may exert an influence, but the phenomenon is not to be set down as a nervous one. In some patients, besides the pain of the mere act of deglutition, there is another serious symptom, and one which appears very difficult to explain, the impossibility of swallowing liquids, or such finely divided food, as cannot be made into a homogeneous alimentary ball. Most authors attribute this to the destruction of the epiglottis, thinking that it does not exactly cover the entrance of the larynx; and that thus the food falls into the air passages. Our authors confess themselves unable to enlighten us, as to the mechanism of this functional difficulty; but think they have proved that, in some patients, the destruction of the epiglottis does not hinder them from swallowing perfectly, while others, with the epiglottis untouched, could not execute any effort at deglutition, without having the food penetrate the larynx. Louis gave the following signs, as indicating ulceration of the epiglottis—"fixed pain in the superior part of the thyroid cartilage, or immediately above it, painful deglutition, ejection of drinks by the nose, the pharynx and tonsils being sound." Trousseau observes, that two of his cases showed, that all these symptoms might exist, without ulcer-

ation of the epiglottis, and, he says, all may be absent with the epiglottis destroyed.

The symptoms already presented, as belonging to simple laryngeal phthisis, belong also to the other forms. The sound of the voice, cough, puffing, the mode of deglutition and respiration, are exactly the same, because dependent upon an organic change common to all—inflammation, ulceration and narrowing of the larynx. To these are added some specific symptoms. In the syphilitic form, the pain in deglutition is generally very severe, owing to the ulcerated condition of the fauces so often present. When the syphilitic ulceration is confined to the larynx, it is not manifested by any particular sign, and the disease can only be recognized by the antecedent history of the patient, or by collateral symptoms on the skin or bones, &c. This form of disease is generally an extension from the nares or pharynx, and experience shows, that the affections of the larynx are very analogous to those of the gullet; thus an erythematous syphilis of the fauces, is generally followed by laryngitis, without ulcers; and we may presume, that syphilitic ulcers and necrosis exist, in the larynx, when we observe analogous disease in the nasal fossæ, and when the tonsils or palate have been deeply ulcerated. Tubercular laryngeal phthisis may present, besides the symptoms of the simple form, the characters of phthisis pulmonalis. This species is distinguished by stethescopic signs, by the nature and abundance of the expectoration, and the rapidity of the emaciation. Before forming our prognosis in laryngeal disease, we must make the strictest examination of those signs which reveal tubercles in the lungs, because of the tendency which they have to aggravate slight phlegmasiæ, and bestow incurable characters upon them. The cancerous species does not differ, in symptomatology, from the simple; in the only example reported; there were not even the lancinating pains. The presence of the tumour alone can lead to the diagnosis; and as that must be fully developed, before it is certainly known, we should suppose it ought to have been classed with the simple form, among those caused by foreign growths, within or about the larynx.

There are three diseases which may be mistaken for laryngeal phthisis:—tracheal phthisis, supported by Cayol and others, but which our authors make the same disease, because it has the same symptoms, and co-exists with it; the œdematous laryngeal angina,

which, when acute, can only be confounded with *croup*, and, when chronic, the most frequent form in which it is presented, is only a termination of laryngitis, and a closing symptom of it; and, lastly, asthma; not that produced by disease of the heart and lungs, which could not be confounded with laryngitis, but that singular nervous state of the respiratory apparatus, characterized by paroxysms of orthopnœa, followed by a calm in the respiration. The phenomena are very similar as to posture, expression, muscular efforts; but one pathognomonic sign suffices to distinguish them—in asthma the voice is sonorous.

The sixth chapter commences with a very able disquisition upon the terminations of disease, in which is examined the question of the propriety of naming diseases which affect different organs, from the one first affected, as in the malady under consideration.

"Other lesions often follow in its train, which may be more grave than the disease of the air passages; still, if they be secondary, we should say, that the patient died from laryngeal phthisis, making the well established priority of lesions the voucher for the name of the disease. If the lungs be first affected, and afterwards the mesentery and follicles of the intestine become the seat of disorders, more immediately destructive than those of the lungs, we should still call this a pulmonary phthisis; so, if the series of general and local phenomena have begun in the larynx, and afterwards, the laryngitis still progressing, the lungs, the mesentery and intestines present signs of tubercle, we still call this a case of tubercular laryngeal phthisis. And if you choose, it may be also a pulmonary phthisis, a tubercular enteritis, or mesenteric atrophy."

The difference between phthisis pulmonalis and laryngeal phthisis, is shown by the great length of time required for the latter to destroy its victim by consumption, while the former destroys with frightful rapidity. They call on us to admit tubercle as a general fact in our economy, attacking all the organs, tho' chiefly the lungs; and that the simultaneous occurrence of lesions, in different apparatus, in no wise proves a necessary connexion between the organ first affected, and those which subsequently suffer. Upon these grounds, we find they claim as cases of tuberculous laryngeal phthisis, all those where an affection of the larynx has been the primary lesion.

Simple laryngitis may cause death. Our authors have never seen a case produce death by consumption, but their observations led them to believe, that it might do so; and they have often ob-

served chronic diseases of the larynx, causing a fever with hectic characters, and considerable emaciation and debility, and a decided consumption, before death was caused by the suffocation attendant upon the swelling of the mucous membrane of the air passages. This is death from laryngitis, in the strictest sense of the word; the only laryngitis, according to some writers, and a very rare disease.

"In ordinary circumstances, the affection of the larynx, when not far advanced, and when it does not *cause* obstinate cough, fever, nor oppression, does not produce emaciation; but when it follows these phenomena, the patient soon falls into a dangerous state, dyspnœa advances, and death comes on with asphyxia, the most common termination."

How can we call this laryngeal *phthisis*, why not rather laryngitis. Moreover, in many cases which are presented, it is difficult to understand how the symptoms of hectic could be produced by a chronic ulcerating phlegmasia of the larnyx. The surface of the mucous membrane is affected to so small an extent, the suppuration is in general not copious, pain so insignificant and the sympathetic relations of the organ so unimportant, that it requires all the authority of names to establish the existence of simple *laryngeal phthisis*. But the secret is developed; the continuance of the cough fatigues the lungs and expiratory muscles, and causes pervigilium, the pain of deglution is often considerable, and in some there is absolute inability to swallow the least portion of food without suffering convulsive cough and suffocation; in a word, want of sleep and starvation are sufficient to explain the cause of death, and in many cases the hectic too. "Tuberculous pulmonary phthisis," appears to be a frequent termination of *Laryngeal phthisis*. Louis proposes in explanation, that it is caused by the irritation of the pus coming from previous tubercles in the lungs, though it may be more plausible to attribute both diseases to a tuberculous diathesis—admitting that they are simultaneous, and that neither is cause of the other, any more than we attribute the colliquative diarrhœa to the tubercles in the lungs, but to the diathesis which disposes both lungs and intestines to suppuration. This generally first occurs in the lungs, but some rare cases establish that it may commence in the intestines and affect the lungs secondarily. There is a still more intimate connexion between the larynx and the lungs, than between them and any other apparatus in the economy: therefore it may not be the laryngitis that cause phthisis as Borsieri thought, nor phthisis

which caused laryngitis as Louis considered probable, so that our authors have concluded to confine themselves simply to the question of priority.

Aphonia, the shrivelling of the larynx (retrecissément) and the oppression consequent upon it, are great obstacles to auscultation. We lose the sound of the voice, that furnishes such valuable diagnosis, nor can we perceive other slight changes because the respiratory murmur is masked by the hissing of the larynx. Our authors arrive at the following conclusions which appear very plausible and philosophical.

1st. That tubercular pulmonary phthisis generally exists first and that the larynx is affected afterwards.

2d. That in the rarer cases the tubercular lesion does begin in the larynx, and the lungs are secondarily affected.

3d. That sometimes laryngeal and pulmonary phthisis advance together.

4th. That in this case the disease may seem to exist exclusively in the larynx because of the predominance of the laryngeal symptoms."

The œdema glottidis of Bayle which has been introduced and adopted by most nosologists since his time, is next examined in its relation to laryngeal phthisis and most cases of it appear either to have been mistaken for an inflammatory engorgement, or a termination of the latter affection. The name is very justly objected to because of its being unphilosophical, the Glottis not being an entity cannot be œdematous, "œdematous laryngeal angina" is proposed as a substitute. The diease does not appear very well established.

"Writers who contend for œdematous laryngeal angina, without inflammation depend upon the pale color observed in the aryteno-epiglottidean ligaments, from infitration of pus or seropurulent matter, but these very words presuppose inflammation—the pale color of the palpebræ after erysipelas, is analogous—and constantly observed, though the inflammation was high during life and the parts red. The same thing is observed in the pale or yellow color of the conjunctiva after chemosis, or in the pale pharynx of those who have died with pharyngeal angina. Bayle attempts to make a diagnosis from the manner of inspiration.

Notwithstanding the alarming nature and characters of laryngeal phthisis, a cure may be effected in the commencement of the attack, before the tissues of the larynx and trachea have become too much altered, but there is no hope of a happy termination if the disease have so far advanced as to debilitate the system, by habitual dyspnœa, cough, abstinence, and marasmus, as proved by the general want of success.

In the last chapter we have directions for treatment, which possess peculiar interest to the physician who has been baffled in all his efforts to reach so obscure and unapproachable a lesion. In the first stages, the remedies suitable for a simple catarrh may avert the progress of the disease, but when the peculiar symptoms advance with increasing intensity we must use more rigorous treatment. Repose of the organ is very properly enjoined, speaking should be avoided as much as possible—venæsection in the arm seems to have given better results than leeches applied near the seat of the affection, which concurs with our own experience, in a very interesting case, we could only observe a trifling melioration, which lasted but a short time, from the application of large numbers of leeches. Next to these modes we are advised to use cut-cups to the nuchæ, but we doubt whether much benefit would arise from this means. We are very philosophically advised against the use of hot poultices to the outside of the neck, so often prescribed by some physicians, as they will be very likely to produce a considerable tendency or afflux of blood to the part, and aggravate the symptoms. Revulsives seem to stand in higher favor, blisters to the front of the neck cause too much pain, but setons are much preferred being less painful and irritating and more easily dressed, the most happy effects were produced by a seton about opposite the cricoid space; still, neither these nor antimonials, nor caustic potassa appear to promise much. Whatever be used must be continued for a long time. The potash is applied on either side the larynx and trachea every week so as to have five or six suppurating cauteries succeeding one another. Our authors say they have still less faith in revulsives at a distance from the organ.

As the pain caused by the congestion of the parts, may in itself give rise to inflammation, narcotics have been used to calm this tendency, and relieve also the cough which is very painful when there is an ulcerated surface, we are recommended to use the extracts of stramonium and belladonna, and the salts of morpheum to the denuded cutis. When simple or ulcerative inflammation becomes chronic and only occupies a small part in the economy we know how difficult it is to control it by the best application of general remedies, and how happily topical treatment generally controls the most obstinate ulcers of the throat, mouth, eyes, &c. By discovering a method of topical application to the larynx, so

as successfully to combat diseases of this almost inacessible organ, new prospects open before us, for in our prognosis, that which has been considered incurable may be rendered curable. Here we find new modes of administering medicines, by *respiration*, and some new applications of therapeutic agents attract our attention. The grand difficulty is to introduce medicines without obstructing the respiration.

Fumigations have long been used in these disorders, pure or variously medicated, as with chlorine, iodine, hydrosulphuric acid, &c. with some supposed benefit. Trousseau says they have even used vapors of cinnabar, sulphuric acid, &c. with *various* results. The difficulty with fumigations is the danger of irritating the lungs, as it is impossible to restrict their application to the diseased organs. Liquids are certainly of much easier application, and are more under control of the operator; both irritating and astringent solutions are used, consisting of nitrate of silver, corrosive sublimate, sulphate of copper. The nitrate of silver, so beneficial in external affections, is preferable on account of its rapid action, and harmlessness. We are advised to use a solution of ʒj. of the nitrate to ʒ.ij. of distilled water, sometimes ʒ. iv. water is used. This is to be applied with a piece of whalebone, bent near the end, to which is attached a small portion of sponge. When the application is to be made, we are to open the mouth, depress and draw forward the tongue with a crooked spoon handle, and introduce the probe until it passes the epiglottis, when it is to be depressed and buried in the upper part of the larynx, in this way a drop or two of the solution is applied directly to the ulcerated surface.

When the pharynx is also affected, as is frequently the case, particularly in the syphilitic species, use a probe of a line and a half diameter, bend it an inch from the end, at an angle 45 deg., fasten on firmly a round piece of sponge, six lines in diameter. This is soaked in the solution, the mouth opened as before and the probe introduced, when it passes the isthmus of the gullet, there is made an effort at deglutition which elevates the pharynx; now bring forward the sponge from the gullet, and by this manœuvre, it is brought over the entrance of the larynx, the epiglottis is lifted up, and the solution is easily pressed out into the larynx, the convulsive cough produced at this juncture favors the introduction, vomiting is also sometimes caused. As may be imagined this

procedure is very distressing, though we are assured it is not painful: another method is proposed, which is, injecting with a little syringe like Anel's, having a pipe five inches long and curved at the end, the opening must be at least one-fourth of a line in diameter. We are directed to take up a quarter of its capacity of the solution, then elevating the piston fill the rest with air, so as to effect a shower upon the upper part of the larynx and œsophagus at the same time—This instantly causes a cough and regurgitation which throws out any of the solution that may remain in the œsophagus not combined with the tissues, a few swallows of a gargle of salt water will decompose any that remains in the œsophagus that might be swallowed. Educated with all the terror of cautery in any form, we are much surprised to learn that little pain is experienced, and that the animal sensibility is very obtuse in these organs, which are so well supplied with organic sensibility, causing the cough and convulsive movements.

A close analogy of facts and deductions from them induced our authors, when studying the applications of irritating collyria, so beneficial in certain states of the mucous membranes, to attempt similar medication to the larynx. Finding the introduction of fluids very beneficial, though distressing to the patient, and that the sudden constriction of the glottis prevented the application being made extensively, they endeavored to discover some plan of applying medications to the whole surface of the larynx and upper part of the trachea.

"Areteus had prescribed powdered alum for the malignant angina, in the form of *insufflation*—and it has been found by Bretonneau, in his researches on the subject of *Diptherite*, a most powerful means of arresting the spread of false membranes from the pharynx to the air passages. Areteus used a single reed, Bretonneau a tube with a bulb in its course, and traversed by a gauze partition. Our authors recommend a tube of glass 8 or 10 inches long, with a calibre of two lines; into one end are placed three or four grains of the powder to be used, the other extremity is placed as far back in the mouth as possible, the patient after a deep expiration, closes his lips, and by the brisk action of the diaphragm makes a rapid insufflation. The column of air traversing the tube, hurries along the powder, scattering it over the pharynx and a part kept in suspension by the air, passes into the larynx and trachea. You are advised of the entrance, by fits of coughing which the patient should restrain as much as possible, so as to preserve the medicine in contact with the affected parts. These inspirations are to be repeated several times a day according to the state of the larynx, the nature of the powder, and the manner in which it is borne."

These "dry collyria" are powdered sugar, subnitrate of bismuth, calomel with twelve times its weight of sugar, red precipitate, sulphates of zinc, and copper, with thirty-six proportions of sugar, alum with twice its weight, acetate of lead with seven times its weight, nitrate of silver with seventy-two, thirty-six, or twenty-four times its weight of sugar; which proportions may be varied to suit the case and susceptibility of the patient. Of course these powders should be finely livigated. In the first stages when not severe, the subnitrate of bismuth is used, four grains, four times a day. If this be ineffectual, acetate of lead, alum, sulphate of copper or zinc, and nitrate of silver are substituted; the alum is preferable if there remain but little swelling of the mucous membrane without active inflammation. Nitrate of silver is the favorite remedy with our authors, who recommend it in all cases, not only when there is a simple erythema of the mucous membrane, but also when there are erosions and ulcerations, to be applied two or three times a week, and in some cases every night. Calomel and red precipitate they have only administered in cases of ulceration. These remedies are to be used cautiously at first, and pushed when the patient becomes accustomed to them. Mercury as a *general* treatment has effected cures: its action is little understood, but the result no doubt arises from its powerful property of modifying the general state of the organism. The action of iodine, though no better understood, is more constant in its results; as we see it resolving bony enlargements, &c., we are recommended to try its effects in chronic engorgements of the larynx. It has been twice employed, one case successfully, the other not so. We are called upon to place great reliance in sulphurous mineral waters, particularly those of Bonnes and Cauterets; in these, as well as in pulmonary affections, they have exerted a most happy influence upon the patients to whom they have been prescribed.

In those frequent cases which begin with some pharyngeal affection, the disease seems propagated by continuity, and in such, we are directed to cure the primary evil, in hopes of dissipating the secondary symptoms; thus excision of the prolapsed uvula, tonsils, &c. is said to have cured a commencing laryngeal phthisis, which had been caused by disease of the gullet. Instead of excision, we are recommended to apply the nitrate of silver with

a sponge, or a powder of six or eight grains, to a drachm of sugar, with the finger, two or three times a week.

"In the syphilitic form, supposing the laryngeal affection to be merely the extension from the gullet, our remedies, whether they be topical or general, should be directed to the primary alteration. Here the inspiration of calomel and red precipitate are advised, repose of the organs, avoid exposure, cauterize the pharynx and upper part of the larynx, every four days, with nitrate of silver, or a solution of chloride of gold, in nitro-muriatic acid, gargle every day with saturated solution of alum; twice a day insufflate of the following powder, three or four grains:

℞ Protochlor. hydrarg. grs. xj.
Powdered sugar ʒss. M.

Gargle five minutes afterwards with water. Or the following, in the same dose:

℞ Nitrat. argent. gr. j.
Powdered sugar ʒj. M."

Cancerous and tuberculous phthisis, we are told, are above the reach of art. We can only assuage the severity of the symptoms, and may be called upon to perform tracheotomy for the extension of life; but in these cases it can only prolong the agony. The anatomical relations of the larynx prevent the introduction of tubes, except flexible ones, which are apt to be compressed and obstructed, and become themselves obstacles to respiration; so that tracheotomy is all that is left us, as a last resource. In this matter, the authors appear to have had more experience than falls to the lot of our surgeons. They have performed it seventy-eight times. Of these operations, five were for laryngeal phthisis. They give a minute account of their mode, which does not essentially differ from that usually practiced. They recommend instant torsion of the arteries, and the introduction of the canula before attempting to arrest venous hæmorrhage.

After a careful perusal of this work, replete with interesting cases, and admirable deductions drawn from the results obtained in their management, we rise from our task with a consciousness of benefit received, and more than ever convinced, that persevering and untiring efforts are necessary in the prosecution of our science, in which new facts and new data will continue to be developed, so long as the industry of man may be directed to its pursuit.

J. A. W.

MISCELLANEOUS INTELLIGENCE.

ANALECTIC, ANALYTICAL, AND ORIGINAL.

I.—ANALECTIC.

AD SYLVAS NUNCIUS.

1. *Treatment of Paralysis, at Paris, with the Actual Cautery.—New mode of Blistering.*

To the Editor of the Lancet.

Sir:—I beg leave to send to you a few remarks relative to the treatment at present adopted at Paris for the cure of paralysis, sicatica, and a variety of neuralgic diseases. Although the present mode of treatment of those diseases cannot boast of originality, still, its great success at *l' Hopital St. Louis*, may be a sufficient recommendation in offering it to your notice. I am, Sir, your obedient servant,

T. H. Burgess, M. D., Edin., M. R. C. S. L.

11, Caroline-street, Bedford-square, Sept. 4th, 1837.

M. Jobert, who has revived the treatment of palsy by the actual cautery (as employed in the days of Hippocrates and Galen), had been rewarded by very great success in the wards of the above hospital, during the two previous seasons. The *Paralysis partialis* and *Paralysis venenata* of Cullen appear to be the types of this disease, from which the most beneficial results have been obtained by the use of the actual cautery. That species of paralysis which is produced by the poison of lead, or *paralysis saturnina*, has yielded almost invariably to three or four applications of the cautery. I have seen several individuals at this hospital, who were perfectly cured by the application of that remedy, with whom a fair trial had previously been made of the old régime, without any apparent advantage.

The treatment of paralysis by the actual cautery, is merely a revival of an old remedy, like "the treatment of hydrocele by incision," of which I gave you an account in The Lancet, for the 27th of May last.

We know that with the ancients, the cautery was considered as a sovereign remedy for a variety of diseases. It has been employed to stop bleeding vessels. It has been employed for the destruction of carcinomatous tumors and ulcers, fistulæ, and polypi. It was principally relied on in chronic affections, as dropsies, diseased joints, palsy, &c. The implicit faith which was placed in this remedy, in the days of Hippocrates, may be perceived from the following aphorism:—Quoscumque morbos, medicamenta non sanant, ferrum sanat; quos ferrum non sanat ignis sanat; vero ignis non sanat, insanabiles, existimare, opportet." Even at the present day its efficacy in stopping the progress of hospital gangrene is admitted by all, and that, too, when all other remedies have failed in producing any effect.

The first individual on whom I saw M. Jobert try this remedy, was a young man, aged 22, a painter. He came into the hospital without possessing the slightest power in his left arm, which, when raised from the side, in a horizontal direction, and let go, fell down immediately to its original situation, and the patient evidently had not the power of even moving it again from his side. The arm and forearm were deprived both of motion and sensation; the temperature of that arm was below that of the right arm. It looked "shadowy, shrunk and weak," and, from the puckering of the skin, seemed to be gradually wasting away. Such was the state of this patient when he came under M. Jobert, before which he had been treated with several other remedies, among which were the favorite arnica montana, and strychnot nux vomica, but without any decided advantage. A few days after he was admitted to the hospital, the *ferrum candidum* was applied by M. J. in the following manner: He commenced by gently drawing the red hot iron from the superior boundary of the disease down along the inner side of the deltoid muscle, so far as its insertion, that is, about the middle of the arm, or a little above it. He then pursued the same course with regard to the external margin of the same muscle, and united these two lines by two or three transverse sections, drawn across the deltoid, from its origin to its insertion. By this method, the powerful stimulant was made to operate along the course of some of the principal branches of the brachial plexus which go to supply the upper extremity. It passed, in part, over the tract of the internal and external cutaneous or perforans casserii nerves, operating on the latter near the insertion of the deltoid, where it is surrounded by the origin of the brach. anticus, and also on the external branch of the median or brachial nerve, which rises in common with the external cutaneous, and endows three of the fingers with sensation.

After the application of the cautery, or, rather, during its application, some spasmodic twitchings were apparent in the hand and fingers, and it is a curious fact that these spasmodic movements appeared to affect the ring finger much more than any of the others. Perhaps this was owing to its being supplied by branches from two distinct nerves, the median and ulnar, whereas the others are supplied solely by the median, on their palmar aspect. At least this is the only physiological explanation that can be given, unless we borrow the theory of the ancients, who supposed that this finger in particular was supplied with a

vein, a special messenger, from the heart, and thereby endowed with a *higher degree of feeling* than any of its neighbors, which rendered it sacred to the marriage ring;—from whence its name, "Digitus annularis*"

After the application of the cautery, the surface over which it had passed was dressed with linen, previously steeped in oil, being applied merely for the sake of sheathing the seared surface, and preventing it from rubbing against the clothes The cautery was not allowed to rest on any part over which it passed *so as to penetrate deeper than the surface*, the object in view being merely to produce a shock on the nerves of the extremity, which can be sufficiently effected by searing the integuments along their course.

The first application of the cautery to this patient was on a Tuesday, and on the following Saturday it was again applied, in the manner above described. During the interval, the extremity was more or less subject to those convulsive twitchings which, by the way, were very unlike the *creeping*, *jerking* and *teasing* sensations (being so described by the patient) which are produced by the use of the strychnine, the spasms produced by the application of the *ferrum candidum*, being of a much more convulsive nature, and not continued. The patient said that the idea of horror (to use his phraseology) which arose in his mind when about to have a burning iron applied to his skin, was much more terrible and painful than the actual application of the object of fear; and after the first day he always allowed the cautery to be applied without any of that shrinking and shuddering which so harrassed him before the first application. In this case, this remedy was had recourse to five several times, and the patient was discharged, cured, on the twenty-sixth day from that on which he was admitted to the hospital. I observed this case with peculiar interest, from the first day, until the cure was effected. It was astonishing how soon, after having recourse to the actual cautery, he began to stir the arm that was before immoveable; and on the day before leaving the hospital he raised his hand to his head with as much facility as he could elevate the unaffected one.

During the period in which the above-mentioned patient was being operated on, a young woman, æt. 24, um "*conturiere*," was admitted into the hospital, her passport being a severe attack of sciatica. Her case immediately attracted the attention of the bold, and skilful, and enterprising M. Jobert, who looked upon her as a fit subject for the omnipotent iron. Here was a woman, young, handsome, and, excepting this neuralgic complaint, in the bloom of health; and it would appear, perhaps, revolting and cruel in this case to have recourse to a remedy which would seem to be even worse than the disease itself. She was asked, she was entreated, by M. Jobert, to submit to the operation; but no; she revolted with horror at the mere idea; and was backed by the *alma soror* who was matron of the ward. She remained in the hospital for ten days before she would even listen to its distinguished surgeon on this topic. At length, however, after much per-

*Of course, this theory existed long before the days of Harvey, and his discovery of the circulation of the blood.

suasion, she consented to allow him (as she said) to *touch* her with the iron. Being placed, face downwards, in her bed, M. Jobert proceeded to apply the cautery, having taken it red hot from a pan of burning charcoal, which is usually carried by a *garcon* for that purpose, when her whole frame quivered from head to foot, although untouched by the instrument. So great was the motion of the body, that the surgeon could not apply the iron for some time. After her agitation was somewhat abated, the cautery was applied lightly over the sacral and cocygeal regions; from thence, along the glutœus maximus, directly over the gemini and quadratus muscles, in a line parallel to the course of the sciatic nerve. During the entire period of the operation the patient never screamed, or seemed to feel much pain. She said, after it was over, that, had she known how slight would be the pain that it would produce, she would never have hesitated in permitting the cautery to be employed. It is merely the idea of having a red hot iron applied to the skin that deters and makes people shrink from the proposal; whereas, the actual pain that it produces, is not more than what is caused by a common burn. This young woman was cured after the third application, and discharged.

The iron should not, however, be used in that species of paralysis which is produced by "ramollissement," or softening of the medulla spinalis; but it might be used with advantage in that kind of palsy which is combined with rheumatism, and of very frequent occurrence in the lower ranks of life in our country.

In the French provincial hospitals, particularly in Normandy and Britany, paralysis of the extremities is treated by *vesication*, which is effected by a rather curious and novel method. The vesication is produced on the extremity affected, in the same relation with regard to the nerves, as the stimulus produced by the actual cautery above described.

The blister is raised in the following manner:—The surgeon cuts a piece of brown paper of the size and shape of the surface which he intends vesicating. This being well damped, or moistened with water, is placed on the limb affected, and a *smoothing-iron* (such as is used by washer-women), being previously *well heated*, is applied over the moistened paper; this plan produces a vesicated surface almost instantaneously, being effected by the steam generated by the contact of the hot iron and moistened paper. This method of blistering, being more speedy and *less painful* than that commonly adopted, is now generally used there in all cases where it is a matter of importance to produce immediate vesication.

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2. *On Sedative Poison.* By Prof. Thompson.—Sedative poisons are usually ranked with narcotic poisons; but the difference of the effects produced by their influence upon the system, is too obvious not to point out the necessity of separating them, and forming a distinct class, or *sedative* poisons.

Sedatives, when administered in doses sufficient to prove poisonous, cause no previous symptoms of excitement: their depressing power is immediately felt, and often, in a few seconds, death, without any morbid symptoms, is the result. That this is the consequence of a direct

sedative influence on the nervous energy is undoubted; and the fact that convulsions sometimes display themselves, when the dose is not sufficient to cause instantaneous death, is no argument against the opinion, since defective stimulus of the brain produces convulsions as decidedly as over-excitement of that organ; a fact strikingly illustrated in profuse hæmorrhages and over blood-letting.

The influence of sedative poisons is exerted chiefly on the nerves of sensation; and this is often displayed locally. Robiquet continued for some time to hold his finger on the mouth of a bottle containing some strong hydrocyanic acid, whilst he was conversing with a friend; it became numbed, and continued so for thirty hours, yet he felt no other inconvenience from the circumstance.

The sedative poisons differ in other respects from the narcotic; thus post-mortem examinations display no characters of inflammatory action having existed in the mucous membrane, or in the brain, or in the spinal chord; indeed no changes appear in either the stomach or the lungs, nor in any of the nervous organs.

The cause of death, in every instance, seems to be an immediate and direct exhaustion of nervous excitability.

HYDROCYANIC ACID.

The first of the poisons is *hydrocyanic acid*, either alone or in substances in which it abounds; namely—the oil of bitter almonds, the distilled water of bitter almonds, the distilled water of the prunus laurocerasus, and noyau.

Hydrocyanic acid has too frequently been employed as an instrument of death by the suicide; occasionally, also, it has been used by the murderer.

In treating of poisoning by this acid, I do not intend to make any reference to the anhydrous acid; for, although it is the most virulent of poisons, yet, owing to the difficulty of keeping it, the possibility of its becoming a poisonous agent is very rare: it is the diluted acid, such as is usually employed as a medicinal agent, which demands our attention.

Many instances of its employment as an instrument of suicide are on record. Hufeland relates the case of a thief who swallowed f℥j. of the medicinal acid, equal to 40 minims of the anhydrous: he staggered, and died, in less than five minutes. A medical man, with whom I was intimately acquainted, determined to destroy himself. After making his will, and arranging all his affairs, he purchased an ounce of hydrocyanic acid, at Garden's, the Chemist, in Oxford-street; and walked as far as the end of Argyle street. Having called a hackney-coach from the stand, whilst it was turning round, he opened the phial, and drank its contents. He almost immediately staggered, was forced to support himself by holding by the post, and had scarcely power, with the assistance of the cad, to enter the coach, and order it to go to Sloane-st.; on arriving there, the unfortunate gentleman was found, seated in the corner of the coach, completely dead.

An instructive case of poisoning by this acid, where the person recovered, is detailed in the "Revue Medicale," for 1825. A physician at Rennes, who had taken two tea-spoonfuls of the officinal hydrocyanic

acid with impunity, swallowed, on the 5th September, 1824, at seven o'clock in the evening, an equal dose of the acid twice at a very short interval. He had taken a hearty dinner five hours before. He had scarcely left the room where he swallowed the acid, when he felt a confusion of head; but as he had occasionally experienced the same thing before, he did not particularly attend to it. On entering his laboratory, he fell down like a person who had been struck with lightning, or with apoplexy. He lost all consciousness; his face and neck swelled; the pupils became fixed and dilated; trismus supervened; he scarcely breathed; the extremities were icy cold; a strong odour of the acid issued from his mouth; and the pulse was nearly imperceptible. In a few minutes, violent convulsions displayed themselves, and the extremities were horribly distorted. These symptoms continued for nearly two hours and a half, at the end of which time he gradually regained his consciousness; but several days elapsed before he completely recovered.

The French Codex, orders a syrup of hydrocyanic acid. It was administered in drachm doses to seven epileptics in the *Bicetre*, and all of them died, with symptoms similar to those which I have just described.

In whatever manner it is prescribed or administered, either therapeutically or as a poison, hydrocyanic acid operates directly on the nervous centres.

Experiments on the lower animals demonstrate that it acts most energetically when it is applied to serous membranes,—next, when it is taken into the stomach,—thirdly, on the cellular tissue and ulcerated surfaces,—and lastly, on the sound skin.

Emmert, Coullon, Krimer, and others, have drawn opposite conclusions to mine, with regard to its action on the nerves,—in consequence of observing that it does not act on cut nerves, nor on exposed nerves;—nor on the brain, nor the spinal chord. They also contend that, because when vessels of a part are tied, before touching it with this poison, its action is prevented; and it is not prevented by dividing nerves;—and because it is discovered in blood, it must necessarily operate by absorption.

The rapidity of its action,—for instance, the application of the strong acid to the eye of a dog, causing instant death, is against this idea:—and, in my opinion, it can only be explained, by supposing that the poison acts through the nerves.

The effect of a strong dose of hydrocyanic acid is death, almost instantaneous, and without convulsions. Such large doses may cause death in a few seconds; but some minutes may elapse.

In more moderate, but yet poisonous doses, the symptoms are vertigo, nausea, great depression of the strength; the weakness is felt chiefly in the limbs;—tetanic convulsions; gradually increasing insensibility, coma and death. In some instances salivation has supervened.

When it proves fatal, death generally takes place in less than fifteen minutes:—when recovery ensues, the symptoms may go on for many hours;—in some instances they have extended to twelve hours.

If a patient survive thirty or forty minutes, he will generally recover.

Nevertheless the symptoms have continued for more than a day, and yet death has ensued. In man, the period depends on the extent of the dose; but in no case are the fatal effects so rapid as in the lower animals. I have seen a dog, to whom ʒiv. of the medicinal acid were administered, die before he could be placed on the ground, from the lap of the assistant who held him. Some experiments were made by Mr. Macauley, of Leicester, to determine whether an Apothecary's servant, who was poisoned with hydrocyanic acid, could, after taking the dose, before becoming insensible, have time to cork the phial, wrap it up, and adjust the bed clothes. He made three experiments on dogs: one dog, who took fʒiv., died in four seconds; another, who took the same quantity, died in seven seconds; and a third, who took fʒivss., died in three seconds. As far as this evidence went, the presumption was, that the girl had either been poisoned, or that some one had been present to arrange these matters; for had convulsions taken place, her position would have displayed it. The apprentice of her master, by whom she was pregnant, was tried for the murder, but he was acquitted.

Such is the influence of this poison on the animal system.

CYANIDE OF POTASSIUM,

Which is formed by decomposing ferrocyanate of potasse, by a long continued red heat, separating the soluble matter, and evaporating to dryness, operates as a poison in the same manner as hydrocyanic acid. In a solid state this cyanide is deliquescent, very soluble, and has an alkaline reaction. It is inodorous, but has a taste resembling that of hydrocyanic acid. Its effects on the animal economy are exactly the same as those of hydrocyanic acid. It has been recommended to be used in the same manner as the hydrocyanic acid; and requires the same precautions.

OIL OF BITTER ALMONDS.

This is procured by the distillation with water of the marc remaining after the pressure of the bitter almonds, in order to extract the bland oil. It contains two substances which operate differently. One is an azotised substance, very poisonous; uncrystallisable; the other, unazotised, and readily crystallising on exposure to air or oxygen gas, which changes it to an acid.

The azotised substance exerts a powerful action on the animal economy, one drop almost instantaneously destroying a small bird.

On quadrupeds it exerts a less powerful action than hydrocyanic acid.

Robiquet and Villerme tried its influence on a guinea-pig; one drop appeared at first to produce no effect, but after two minutes the limbs of the animal became tottering, the head swayed from right to left, the animal squatted on its rump, and described an arc of a circle, of which the dorsal line was the verge. To this succeeded convulsions of the thoraric muscles, and, after four minutes, it became calm. At the end of seven minutes the convulsions recommenced, the respiration was greatly affected, with a powerful contraction of the expiratory muscles. In three minutes more, every motion had ceased, and respiration was imperceptible, at the end of thirteen minutes the pulsations of the heart were more manifest and easily accelerated, but at the end of eighteen minutes every evidence of life was extinct. When the convulsions ceased, the muscles were relaxed.

The following are the usual symptoms of poisoning by oil of bitter almonds. In small doses, nausea and vomiting first occur, then diarrhœa and vertigo. In large doses, vertigo almost instantly comes on; the features are spasmodically contracted, the eyes are fixed and turned upwards; the pupils are immoveable; the breathing is stertorous; the pulse reduced to thirty in a minute; the breath exhaling the odour of bitter almonds; and death generally takes place in ten minutes.

A woman gave a child the expressed juice of a handful of bitter almonds to cure worms: colic, swelling of belly, vertigo, locked jaw, frothing at mouth, convulsions, insensibility, and death, happened in two hours. The poisonous influence of bitter almonds was known at a period so early, that before the time of Dioscorides, who mentions it, these almonds were used by the Greeks to kill wolves. According to some experiments of Orfila, twenty bitter almonds will kill a dog in six hours, if he be prevented from vomiting by a ligature on the œsophagus; and when six of the almonds were made into a paste, and introduced into a wound, they killed a dog in four days.

The volatile oil, procured by distilling the marc of bitter almonds, was experimented with by Sir Benjamin Brodie, who found that a single drop of it, placed on the tongue of a cat, killed it in five minutes. The bitter almond, when eaten in great quantity, causes nausea, vomiting, diarrhœa, and other symptoms of disordered digestive organs: and similar effects are produced, in some persons, even when a single bitter almond is eaten. In some cases an eruption resembling urticaria is produced. This was the case with the distinguished author of the "Conspectus Medicinæ," who was so susceptible in the digestive organs, that the same effect was produced on him by the white of an egg. A stout laborer had eaten a large quantity of bitter almonds. He dropped down, and Mr. Kennedy, who was sent for to see him, found him insensible; the pulse was imperceptible, and the breath exhaled the odour of bitter almonds, the remains of many of which were found in the stomach.

The effect of the oil of bitter almonds on the human subject is modified by the volatile oil to which it owes its odour, and which operates as an excitant, so that the influence of this oil more closely resembles that of a narcotic than a simple sedative. A gentleman, forty-eight years of age, swallowed ʒij. of it: his servant found him with his features spasmodically contracted, and his breathing hurried and convulsed. A physician who saw him twenty minutes afterwards, found him insensible, the pupils immoveable, the breathing stertorous, the pulse beating only 30 in a minute, and the breath smelling strong of the oil. He died ten minutes afterwards.

PRUNUS LAURO-CERSASUS.

Many parts of plants, which have the odour of the bitter almond, namely, the peach leaves, cherry-stone kernels, and the leaves and kernels of other species of prunus, are as poisonous as hydrocyanic acid, to which all of them owe their poisonous properties. The most poisonous of them, however, is the prunus *lauro-cerasus*, or cherry-laurel. It is a beautiful evergreen, flowering in July.

It is a native of the shores of the Black Sea, and was transported into Europe in the 16th century. It thrives freely in our gardens. The plant rises from five to fifteen feet in height, is very branching, and the stem is covered with a blackish bark. The leaves are almost sessile, distick upon the branches, oblong, acuminated at the apex, slightly denticulate, green, and shining on the upper disk, paler below, and cerisceous. The flowers are in long, axillary racemes, each flower being supported on a short pedicel: they are white, small, and exhale a powerful odor. The fruit is an ovoid, elongated drupe, resembling the small black cherry, or guigores, but they are smaller. Their taste is sweet and insipid.

When the leaves of the plant are bruised and distilled, they yield an oil closely resembling that of bitter almonds, and the water which comes over with it contains a small portion of the oil, and a large quantity of hydrocyanic acid.

Dr. Price, the alchemist, destroyed himself with this laurel water, as it is termed. It was then frequently used as a sedative. Many experiments, made on quadrupeds, have determined its powers. Among other experimentalists, M. Ollivier, of Angers, found that fʒiv. of it will kill a strong dog in ten or fifteen minutes; and what is *a priori*, curious, the same dose produces the same fatal effect after it has been freed from the hydrocyanic acid, by means of potassa and sulphate of iron. This has been explained by the fact that, besides the free acid, it contains the elements of the acid, for when liquor potassæ is added to the fluid freed from the acid, and the mixture heated, cyanide of potassium is formed, capable of again forming Prussian blue with sulphate of iron.

As the leaves of this plant are often used to flavor custards and puddings, accidents have occasionally followed its use in this way. Dr. Paris mentions an instance of several children, at an English boarding-school, having suffered from a custard flavored with these leaves. Foderé notices, in his "Medicine Legal.," tom. iv., p. 27, the following fatal influence of it on two maid-servents at Turin, in 1784. These girls stole a bottle of the distilled water of cherry laurel, and, fearful of being discovered, they finished the whole in a short time, and almost immediately perished in convulsions. The bodies were opened in the University: the stomachs were found slightly inflamed, but the rest of the organs were in a healthy condition.

SEDATIVES.—CHEMICAL TESTS AND POST-MORTEM APPEARANCES.

In every instance of poisoning by any of these sedative plants, or by the oil of the bitter almond, or by hydrocyanic acid, the post-mortem appearances are the same; and the mode of testing is in all cases the same as if the poison were simple hydrocyanic acid.

With regard to the post-mortem examination of the body in cases of poisoning by hydrocyanic acid, or the substances containing it, much depends on the period at which the inspection is made. The sooner it can be done with propriety the better; for when the body has been exposed for two or three days to the air, no traces of the poison can be detected in it. Its decomposition in the animal body is much hastened

by the commencement of putrefaction, consequently the inspection should be made sooner in summer than in winter.

When death has taken place from hydrocyanic acid, the eyes remain glistening, and the features are as composed as those of a living person, appearances which continue for eight or ten hours; and for at least an hour after death, the eye is susceptible of the impression of light: the pupil dilates and contracts. I observed this very remarkably displayed in the case of the medical gentlemen which I detailed to you: the glistening continued for upwards of ten hours. It must be remarked, however, that this condition of the eye cannot alone be relied upon as characteristic of this description of poisoning, for the same effect is perceived in asphyxia from carbonic acid gas. Dr. Christison remarks, that he observed it six hours after death, in a woman who died of cholera. There is, also, a peculiar brilliancy in the eye in fatal instances of poisoning by strychnia, and after death from the epileptic paroxysm. This state of the eye, however, gives value to the other appearances.

With respect to the external condition of the body, the spine is generally stiff, and the belly drawn in.

On opening the body, the odour of the acid is frequently, but not always, perceived; when it is obvious it pervades every cavity; and, often, it is very perceptible in the blood, especially when the dose has been large.

On opening the *stomach*, the odour is often very obvious there, when it is not so obvious in the blood. This was the case in an instance recorded by Mertzdorff, and also, in the seven epileptics poisoned by the syrup of hydrocyanic acid in the *Bicetre*. In the case of the thief recorded by Hufeland, the villous coat of the stomach was red; and easily detached, as if in a gangrenous condition. I have never seen such an appearance in this viscus. It is a curious fact, that even when the odour of the acid has been very perceptible in the stomach, it has not been detected by the nicest tests; at least such was the case in instances opened by Coullon and others.

In the *intestinal canal* I have not been able to detect any change, although, in Hufeland's case, the mucous membrane was faintly reddened.

The veins of the liver, the spleen, and the kidneys, are generally gorged with black, fluid blood, which sometimes exhales a strong odour of the acid. The fluid state of the blood is not, however, constant; in the experiments of Coullon, Itner, and Emmert, on quadrupeds, the blood was coagulated. In a case of poisoning with the oil of bitter almonds, recorded by Mertsdorff, the colour of the bile was altered to blue; but this is a solitary instance of such an appearance.

On opening the *thorax*, the lungs are found gorged with dark-colored viscid blood, to a degree sufficient to make the more depending parts resemble liver. In some instances, when the dose has been very large, the right cavities of the heart have been gorged with blood, and the left nearly empty, as if the circulation had been suddenly arrested.

In the *cranium*, the vessels of the brain and its membranes are also generally gorged, and the odour of the acid has been detected in the ventricles.

Throughout the whole body there is an unusual turgescence of the venous system, with a corresponding emptiness of the arterial.

Now, let us suppose a case of suspected poisoning by hydrocyanic acid, or any of the substances containing it, which have been brought before you, and that your assistance is demanded to ascertain the fact. The first circumstance to which your attention is to be directed is the history of the case, the symptoms, and the post-mortem examination of the body; the second act of inquiry is to determine the fact of the hydrocyanic acid being, really, the poisoning agent.

If any of the poison remain, it may be readily recognised by its odour and taste; the acridity is felt especially at the back part of the throat, and this is caused as much by the odour of the acid as by swallowing it. The suspected fluid being thus rendered obvious by smelling and tasting, is then to be tested with several re-agents.

1. Add to the suspected fluid a few drops of solution of potassa, the fluid will remain colorless; then drop in a solution of mixed proto-sulphate, and per-sulphate of iron: it forms, at first, a brownish precipitate, which gradually acquires a greenish-blue tint, and, on the addition of a little acid, a deep Prussian blue is precipitated. The only nicety in this process is to be certain that the solution of the sulphates of iron contain a proto-sulphate, as the per-sulphate alone produces no precipitate of Prussian blue; and, on adding sulphuric acid, the brown precipitate is re-dissolved, but no blue colour or precipitate is formed as when the proto-sulphate is employed.

2. Add to the supposed hydrocyanic acid a few drops of liquor potassæ, and then some solution of sulphate of copper; a yellowish-white precipitate will be thrown down, and will become white on the addition of hydrochloric acid. This is caused by the hydrochloric acid dissolving some oxide of copper, which is thrown down by the potassa. The white precipitate is cyanide of copper, which is formed as a white powder, very abundantly even when the hydrocyanic acid is in small quantity. According to M. Lassaigne, it demonstrates the presence of the acid in 20.000 parts of water.

3. To the supposed hydrocyanic acid add a solution of nitrate of silver; a white precipitate is formed, which is not soluble in nitric acid at 60 deg., but it is soluble in that acid at its boiling temperature. This distinguishes this precipitate, the cyanide of silver, from the chloride of silver. If the precipitate be abundant, when dried and exposed to heat in a tube, it will evolve cyanogen, which burns with a violet-colored flame. One hundred parts of the dried cyanide correspond to rather more than twenty-one of the acid, so that the quantity of the acid may be known. This test may also be thus employed:—Put a drop or two drops of the suspected fluid, very slightly acidulated with distilled vinegar, into a watch-glass, and immediately cover it with a plate of glass, the under surface of which, to the breadth of a pea, is moistened with a solution of nitrate of silver, formed by dissolving one gr. of the nitrate in 2,000 grs. of distilled water. If the drop of the solution of the nitrate remain transparent, no prussic acid is present; if it become clouded, or milky, that acid is present, provided, on placing it over a glass of ammonia, it become again clear, and that it retain, unchanged, its white color, when exposed to light.

When hydrocyanic acid is mixed with wine, beer, coffee, milk, or other substances, it causes no change in their appearance, unless the mixtures have been kept for some time, when it gives a deep-brown tinge to them, owing to the decomposition of the acid.

In searching for hydrocyanic acid in mixed or compound fluids, if the quantity remaining in the glass or the cup be a few drops only, it may be tested with the watch-glass and nitrate of silver; but if it be in greater quantity, or if we are examining the contents of the stomach, the best method is to distil with a gentle heat, in a large retort placed in a water-bath, and to which a receiver is adapted by the interposition of a very long tube. The materials in the retort must not be allowed to boil, and the receiver must be kept cool with ice. The product is then to be collected, and tested in the usual manner for hydrocyanic acid.

This method of proceeding is applicable to the substance of the stomach itself, the blood, and the secretions; but, in examining these, the process must not be delayed longer than thirty or forty hours after the death of the poisoned person.

It is often of great importance to ascertain the quantity of hydrocyanic acid present in the fluid which has operated as a poison, and nothing is more easy, provided the matters to be examined contain no chlorides. It is effected by simply precipitating the fluid with nitrate of silver, collecting carefully the precipitate, washing and drying it, and then weighing it accurately; every 100 grains of the dried cyanide of silver contain 20.33 of pure hydrocyanic acid.

If we have the oil of bitter almonds mixed with the contents of the stomach, or other matters to examine, then the strong odour of peach blossom at once leads us to the determination of the poison; the same process of distillation at a low temperature, and the same mode of testing the result, is required, as when we are operating upon the diluted acid. The quantity of the acid in the distilled water of bitter almonds, and in cherry laurel-water, may be ascertained by simply dropping in the nitrate of silver, as in the simple diluted acid.

Now, let us take a case of actual poisoning by a substance containing hydrocyanic acid, for instance *cherry laurel-water*. This was the poison used for the murder of Sir Theodosius Boughton, for which Captain Donnellan was tried and convicted. The evidence on the trial, as far as concerned the condition of the body, and the draught supposed to have contained the poison was painfully conflicting. It was proved, both by Lady Boughton and by others, that the draught had a powerful odour of bitter almonds. She remarked, that when Sir Theodosius, her son, was taking the draught, "he observed that it smelt and tasted very nauseous, upon which I said, 'I think it smells very strongly like bitter almonds." Dr. Rattray, who was examined as to the appearance presented by the body after death, was desired, in Court, to smell the bottle from which the draught had been poured. His answer was, "I know the liquid well; it is a distillation of laurel leaves, commonly called laurel-water." Dr. Rattray, also, in reply to a question respecting the smell of the contents of the stomach, said, "One could not expect any smell, but partaking of that general putre-

faction of the body; but I had a particular taste in my mouth at that time, a kind of biting acrimony upon my tongue. And I have in all the experiments I have made with laurel-water, always had the same taste, from breathing over the water, a biting upon my tongue, and sometimes a bitter taste upon the upper part of the fauces." Dr. Rattray very properly, however, did not impute this taste to any thing but the ammoniacal salts evolved from the decomposing body. I have mentioned it to show you, gentlemen, the necessity of not permitting your imaginations to run away with your judgment on such occasions. Dr. Rattray had been making experiments with laurel-water, under the idea that the poison on this occasion was laurel-water, and, evidently, imagined the taste; for, as the body was not opened for two days after death, and was in a state of decomposition, it was not likely that the hydrocyanic acid, contained in the quantity of laurel-water administered to Sir Theodosius, would then have remained undecomposed in the stomach. In opening bodies soon after death, however, this is an important point to attend to.

Nearly the same opinions respecting the contents of the bottle being laurel-water, were also given by Mr. Wilmer, Dr. Ashe, Dr. Parsons, Professor of Anatomy at Oxford; and they were all of opinion, that from the fact of the smell of the laurel-water in the bottle, and from the symptoms, Sir Theodosius had been poisoned by laurel-water. They based their opinion upon the effects perceived in quadrupeds poisoned by laurel-water. The answer of Dr. Parsons is striking, in reference to his knowledge of the poison being laurel-water. He was asked, "You collect that from the similarity of the smell?" he replied, "We have nothing else to judge from but the similarity of the smell." Nothing can more clearly elucidate the great advantages which Medical Jurisprudence owes to Chemistry than this reply.

John Hunter gave his evidence in a manner calculated to throw some doubt on the fact of the poisoning; and although I think that the evidence generally bore out the conviction, yet I cannot concur with Dr. Christison's remark, that Mr. Hunter's evidence "does him very little credit." I will read it to you, prefacing the perusal by remarking that the symptoms were, in every respect, those that have usually occurred in cases of poisoning by laurel-water.

"I don't wish to go into that; I put my question in a general way.—The whole appearances upon the dissection explain nothing but putrefaction.

"You have been long in the habit of dissecting human subjects; I presume you have dissected more than any other man in Europe?—I have dissected some thousands during these 33 years.

"Are those appearances you have heard described such, in your judgment, as are the result of putrefaction in dead subjects?—Entirely.

"Are the symptoms that appeared after the medicine was given, such as necessarily conclude that the person had taken poison?—Certainly not.

"Is any certain analogy to be drawn from the effects of any species of poison upon an animal of the brute creation, to that it may have upon a human subject?—As far as my experience goes, which is not a very

confined one, because I have poisoned some thousands of animals, they are very nearly the same; opium, for instance, will poison a dog similar to a man; arsenic will have very near the same effect upon a dog as it would have, I take it for granted, upon a man; I know something of the effects of them, and I believe their operations will be nearly similar.

"Are there not many things which kill animals almost instantaneously, that will have no detrimental or noxious effect upon a human subject; spirits, for instance, occur to me?—I apprehend a great deal depends upon the mode of experiment; no man is fit to make one but those who have made many, and paid considerable attention to all the circumstances that relate to experiments; it is a common experiment, which I believe seldom fails, and it is in the mouth of every body, that a little brandy will kill a cat; I have made the experiment, and have killed several cats; but it is a false experiment; in all those cases where it kills the cat, it kills the cat by getting into her lungs, not into her stomach, because, if you convey the same quantity of brandy, or three times as much, into the stomach, in such a way as the lungs shall not be affected, the cat will not die. Now, in those experiments that are made by forcing an animal to drink, there are two operations going on; one is a refusing the liquor by the animal, its kicking and working with its throat, to refuse it; the other is, a forcing the liquor upon the animal, and there are few operations of that kind, but some of the liquor gets into the lungs. I have known it from experience.

"If you had been called upon to dissect a body, suspected to have died of poison, should you or not have thought it necessary to have pursued your search through the guts?—Certainly.

"Do you not apprehend that you would have been more likely to receive information from thence than any other part of the frame?—That is the track of the poison, and I should certainly have followed that track through.

"Then, in your judgment upon the appearances the gentlemen have described, no inference can be drawn from thence that Sir Theodosius Boughton died of poison?—Certainly not. It does not give the least suspicion.

"Mr. Howorth.—Upon the symptoms immediately produced, after the swallowing of that draught, I ask whether, in your judgment and opinion, that draught did not occasion his death?—I can only say, that it is a circumstance in favor of such an opinion.

"That the draught was the occasion of his death?—No; because the symptoms afterwards are those of a man dying who was before in perfect health; a man dying of an epilepsy or apoplexy, the symptoms would give one those general ideas.

"Then you decline giving any opinion upon the subject?—I don't form any opinion to myself; I cannot form an opinion, because I can conceive, if he had taken a draught of poison, it arose from that; I can conceive it might arise from other causes.

"If you are at all acquainted with the effects and operations of distilled laurel-water, whether the having swallowed a draught of that

would not have produced the symptoms described?—I should suppose it would; I can only say this of the experiments I have made of laurel-water upon animals, it has not been near so quick; I have injected laurel-water directly into the blood of dogs, and they have not died; I have thrown laurel-water, with precaution, into the stomach, and it never produced so quick an effect with me as described by those gentlemen.

"But you admit that laurel-water would have produced symptoms such as have been described?—I can conceive it might.

"Mr. Newnham.—Would not an apoplexy or an epilepsy, if it had seized Sir Theodosius Boughton at this time, though he had taken no physic at all, have produced similar symptoms too?—Certainly."

TREATMENT.—HYDROCYANIC ACID.

The treatment of poisoning by hydrocyanic acid and its compounds is not satisfactory, owing to the rapid action of the poison. When our assistance is demanded, and we arrive in time, ammonia and brandy are the chief remedies. Bleeding has been proposed; but Orfila, who tried it, found it of no use. A much more certain remedy is the affusion of cold water on the head and spine. Mr. Simeon, apothecary to the Hospital of St. Louis, proposed chlorine. It was tried before by M. Coullon, without any advantage.—*The Lancet.*

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3. *On the Human Voice.* By Prof. MULLER.—We never remember to have read a more happy application of the laws of mechanical science to the structure and physiology of living bodies, than that which Prof. Müller has effected in the account which he has given in the third part of his "*Physiologie des Menschen*" of the larynx and voice. He has detailed them there at too great length to admit of our translating the whole section of the work, though it would fully deserve it, could we spare room for it; but we shall endeavor, in as brief an abstract as possible, to give the most important results which he has arrived at, cleared of all the technicalities of music and mechanics, which can be spared, without rendering the description unintelligible.

The following are the proofs which he adduces, independently of those drawn from his experiments of the glottis being that part of the vocal tube by which the voice is produced:—1st. That when an opening is made in the trachea below the glottis, the voice ceases, and returns when that opening is closed—while an opening made above the glottis does not necessarily destroy the voice. 2nd. Magendie's experiments, showing that the voice continues when the epiglottis, superior vocal (or false) ligaments, and the top of the arytenoid cartilages have been removed. 3rd. The visible vibration of the inferior vocal ligaments, when the voice is heard, in animals whose glottis is exposed, and in men who have attempted suicide. 4th. The injury of the laryngeal nerves, which supply the small muscles acting on and modifying the aperture of the glottis. 5th. The possibility of producing sounds similar to those of the human voice, by blowing through the larynx when removed from the body, when the vocal ligaments have a certain degree of tension, and the glottis is open to a certain width, and this, when every other part, except the inferior vocal ligaments and

their attachments, is cut away. Hence the glottis and its immediate limits, the inferior vocal ligaments, may be regarded as the essential vocal apparatus—the trachea and bronchi being analogous to the conducting pipe, or, as organ-builders call it, the boot of the pipe—and all the apparatus above the inferior vocal ligaments to the body or bell of wind instrument or organ pipes, by which the sound produced in the glottis, or by the vibrating tongue is modified. In birds there is a different arrangement of similar structures; the organ producing the voice is the inferior larynx, which is at the division of the trachea, and to which the bronchi serve as the conducting pipe, while the trachea, and the upper larynx which has no ligaments, perform the office of the pipe which modifies the sound produced at the lower larynx.

The vocal ligaments are rendered capable of regular vibrations, like those of membranes stretched at both ends, by being composed of the same peculiar elastic tissue as has been pointed out by Lauth, Schwann, and Eulenberg, as existing in the middle coats of arteries—the gamentum nuchæ—lig. flava of the vertebral laminæ—stylo-hyoid ligament—longitudinal elastic fibres of the trachea and bronchi, and many other parts of the body of man and animals. It is characterized by its yellowness, dryness, slight vascularity, and by its frequently giving off from the larger bundles, of which its fibres are composed, very fine branches, which, anastomosing with those from adjacent bundles, often form a kind of net-work. In chemical composition it is principally distinguished from the other fibrous, tendon-like or ligamentous tissues, by the difficulty with which gelatine can be obtained from it—and in physical characters, it is most marked by its extreme elasticity, which is permanent in it under almost all circumstances, even after it has been preserved for many years in spirit. But the vocal ligaments are not the only parts of the larynx in which it exists; the thyro-hyoid and middle crico-thyroid consists of it, and it is extensively distributed through the whole interior of the organ, arising principally from the inferior half of the angle of the thyroid cartilage, and thence radiating in fibres backwards, downwards, and a little upwards, forming a continuous membrane attached to the whole of the upper edge of the crycoid cartilage (except where the arytenoid cartilages play), and to the anterior angle and edge of the bases of the arytenoid cartilages. A somewhat increased thickness of this membrane at three parts forms the so-called middle crico-thyroid, and the inferior thyro-arytenoid ligaments; it forms the upper vocal ligaments, which are also connected to the lower by a thin layer of elastic tissue lining the venticulum Morgagni. The same tissue is found also in the lateral hyo-thyroid, thyro-epiglottic, and glosso-epiglottic ligaments; and if to these be added the longitudinal fibres of it in the membranous part of the trachea and bronchi, an idea may be formed of the great extent of walls fitted for vibrations and resonance in the neighborhood of the vocal organ.

The vocal ligaments are made to possess various degrees of tension, by the contraction of the several muscles acting on the cartilages to which they are affixed. Thus the crico-thyroid, drawing the thyroid nearer to the cricoid cartilage, increase their tension, while the arytenoid cartilages are fixed; and the posterior crico-arytenoid muscles

effect the same change if the thyroid cartilage be fixed, and the arytenoid cartilages be coincidently approximated by the proper arytenoid muscles. According to the degree of tension produced by these muscles, the glottis becomes longer or shorter. It is made narrower by the approximation of the arytenoid cartilages by the proper arytenoid muscles, and wider by the separation of these cartilages by the posterior crico-arytenoid muscles.

The elasticity of the ligaments connecting these cartilages will maintain the corresponding edges of the thyroid and cricoid cartilages in approximation, without the aid of muscular effort; so that while the arytenoid cartilages are fixed, there will always be a certain degree of tension of the vocal ligaments; and when the posterior crico-arytenoid muscles act, to draw the arytenoid cartilages backwards, they must have this elastic middle crico-thyroid ligament to act against.

The glottis is capable of receiving the following forms:—When at rest it is lanceolate; growing wider on inspiration, and narrower on expiration. Its sides are formed behind by the inner surfaces and anterior processes of the bases of the arytenoid cartilages; before, and to the greatest extent by the vocal ligaments, attached to those processes, and the angle of the thyroid cartilage. When at its greatest width, it has the form of a lozenge, with its posterior angle cut off, and the distance between the lateral angles, at which are the anterior processes of the arytenoid cartilages, may be 5 3-4 lines. In its narrowed condition the glottis may have a triangular form; it may be open in its whole length, the arytenoid cartilages being merely approximated; or by their coming in contact at their anterior angles, a double aperture may be produced; or by their coming completely in contact, the posterior part of the glottis may be entirely closed, and there will then be no opening except that between the vocal ligaments. This last condition is produced by the united action of the lateral crico-arytenoid and the proper arytenoid muscles; the aperture will be pointed both before and behind, and will vary in width according to the coincident degree of tension of the vocal ligaments.

The loosening and shortening of the vocal ligaments is effected by the thyro-arytenoid muscles, which at the same time narrow the space above and below the lower vocal ligaments.

The exact form of the glottis during the emission of sound is not precisely known, but it is certainly very much narrowed, as is shown by Mayo's observations on those who had attempted suicide, Rudolphi's in a case of loss of the nose and palate, and Magendie's on living animals. Müller thinks, in accordance with the opinions of the last mentioned physiologist, that the posterior part of the glottis, between the arytenoid cartilages, is generally closed during the production of voice, but as in the dead larynx he does not find this a necessary condition, he does not so decide it.

The following is the mode employed by Müller in experimenting on the production of voice with the larynx after it is removed from the body. The principal objects to be attained are, a fixed position of cer-

tain of the cartilages, and at the same time a regular and measurable power of moving others, so as to give the vocal ligaments the desired degree of tension and varied forms. These he attains by laying the larynx with its posterior wall on a board, and there fixing it firmly by the cricoid cartilage; the arytenoid cartilages are then fixed by an awl or metal pin, run transversely through them both, near their bases. This is the most delicate part of the process, requiring great care, in order that when the extending force is afterwards applied, both vocal ligaments may be made equally tense; and so that when these cartilages are pressed towards each other on the pin, their anterior or vocal processes may touch. The transfixing pin may then be fixed with cords to the board. When this has been accomplished, and the cricoid and arytenoid cartilages are both fixed to the board, any degree of tension may be given to the vocal ligaments by drawing the angle of the thyroid cartilage forward. This is best done, and will admit of being measured, if a fine string be affixed to it just before the insertion of the ligament, then passed over a pulley, and then have hung on at its opposite end one of a pair of delicate scales, which may be loaded with different weights, so as to draw away the anterior part of the thyroid from the arytenoid and cricoid cartilages, as much as the vocal ligaments will allow. In proportion as the weight is increased, the vocal ligaments will now be stretched. All the parts of the larynx above the lower vocal ligaments may now be cut away, as they are unnecessary for the production of the required sound, and the actions of the ligaments may be better observed when they are removed. A wooden tube to blow through is put into the end of trachea.

The following facts have been observed in the frequent performance of experiments on larynges, thus prepared.

On blowing through the trachea when the glottis is narrow, the vocal ligaments give out full and clear notes, which come very near to those of the human voice, and much resemble those produced by blowing over moist elastic arterial coat, stretched over the end of a table, as in the best kind of artificial larynx. They differ from those obtained when the ventricle, upper ligament, &c. are affixed, only in being less loud. The vocal ligaments sound best and most easily when the posterior part of the glottis, between the arytenoid cartilages, is closed, though this form is not absolutely necessary, and if the tension of the ligaments be the same in both cases, the note produced is of the same height, whether the posterior part of the glottis be open or not, which is at once an evident proof that it is the vocal ligaments whose vibrations produce the sound, and that the air is not the primary vibrator, for in that case the note would be deeper when the glottis was open to its whole length, than when it was open only for the length of the vocal ligaments. And if the anterior angles of the arytenoid cartilages touch, so that there is an aperture both behind and before them, no second note is produced by the second posterior aperture, though the air sometimes rustles, in passing between the cartilages and their uniting membrane.

If the ligaments be equally tense in all cases, the width of the aperture of the glottis does not make any difference in the height of the note produced,—it is only less clear, in consequence of the noise of the

air rushing through, when there is a wide opening; and in this, as in many other respects, a larynx exactly resembles the artificial ones made with bands of caoutchouc and instruments with membranous and metallic tongues, in which a wider opening only alters the expression, and not the height, of the note.

If the vocal ligaments be unequally tense, there are rarely two notes produced; but when the tension is equal, there is occasionally produced a much higher note than the proper one, from the ligaments coming in contact in some part of their length. Notes can as well be produced when the ligaments touch each other every where, as when they have a narrow opening between them; and if the tension be the same, the notes produced in these two conditions are not different as regards their height. In these cases the notes are produced most easily when the ligaments which are in contact are very lax, and they are caused by the interrupted passage of air through them, and may be well produced when the glottis is extremely short.

Low notes may be produced in a very short as well as in a very long glottis, and high notes in a very long as well as in a very short one: if only in the short one for low notes the ligaments are very lax, and touch each other; and if in the long glottis for high notes, the ligaments are at the same time very tense. This shortening and lengthening of the glottis, without alteration of its tension, may best be effected by compressing the lips of the glottis with forceps; while the degrees of tension may be altered by pressing the angle of the thyroid cartilage backwards to the cricoid.

When the whole vocal ligaments, from the angle of the thyroid cartilage to the vocal processes of the arytenoid cartilages (in contact with each other), are in vibration without touching, the notes produced by increasing degrees of tension of the ligaments do not increase in height in precisely the same degrees as those produced by strings and membranes stretched at both ends; there are always some half or whole notes below those given by strings and membranes. For example: with the same length of string, the notes or numbers of vibrations increase directly as the square roots of the powers producing the tension; i. e. if a string, extended by a weight of 4, give the note *c*, it will give the octave or *c'* when extended by a weight of 16, and the second octave or *c''* with a weight of 64. But by adding weights into the scale attached to the thyroid cartilage, as above described, according to this rate of increase, octave's are not obtained from the vocal ligaments, but notes, 1-2 a note, or 1, 1 1-2, 2, or 3 whole notes below the octaves. However, the analogy is near enough to show that the notes of the human vocal organ, so far as they are produced by the glottis and its limits, are analagous to those of strings and membranous tongues. [The experiments proving this are of very great difficulty, and require considerable practice to perform them correctly, but we cannot undertake to translate the whole of Müller's long directions.]

London Medical Gazette.

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4. *New Experiments of the Sense of Taste in Man.*—In 1830, MM. Guyot and Admirault published a series of experiments on the

seat of taste in man, from which they drew the two following conclusions:—

1. The lips, the inner part of the cheeks, the roof of the mouth, pharynx, velum palati, dorsal and inferior surfaces of the tongue, have no share in the production of taste.

2. The sense of taste exists only at the posterior part of the tongue; along its edges for about a line or two towards the dorsal surface; at the point of the tongue; and, finally, at a restricted point of the velum palati, situate very nearly at the centre of its anterior surface.

In a second memoir, lately published by the same authors, an additional number of experiments has been recorded, together with a solution of the following questions:—

1. Do the gustatory surfaces perceive. with an equal degree of intensity, throughout their whole extent?—No. Taste is much stronger at the base of the tongue, and along its edges the gustatory power goes on increasing from the pillars of the velum pelati up to the tip of the tongue, where it is at a maximum.

2. Do the gustatory surfaces perceive indifferently all kinds of savors? Certain bodies, such as milk, butter, oil, and especially alimentary substances, only produce an impression of tact, at the anterior part, their characteristic tastes being only distinguished at the posterior part of the tongue.

3. Does a sapid body produce an identical taste when applied to different regions of the tongue?—A great number of bodies, and salt in particular, exhibit this very remarkable phenomenon, that the sensations which they produce at the anterior and posterior parts of the tongue are extremely different. Thus, solid acetate of potass, which, at the anterior parts of the tongue produces a burning acid sensation, is merely bitter and nauseous when applied to the posterior surface, upon which it produces no acid nor stimulating impression. Sulphate of magnesia, slightly acid and saltish in front, becomes intensely bitter at the root of the tongue. Acetate of lead produces only a sweet taste at the posterior part; anteriorly it is styptic, fresh and stimulant. The alkalies, the water of lime, and of ammonia, produce only one taste, no matter where they may be applied.

From the very numerous experiments which M. Guyot has performed, both on himself and on other individuals, he concludes—

1. That taste is a physical and not a chymical sense: that it is connected with bodies, and not with their densities, their temperature, or their consistence. In this respect it differs very considerably from the senses of touch or tact, which are exclusively destined to recognise the physical properties of bodies.

2. That the sense of taste must be exercised by at least two nerves.

Numerous anatomical investigations have led M. Guyot to regard the glosso-pharyngeal nerve as the one which presides over the perception of taste at the base of the tongue, and perhaps at the velum palati; while the lingual nerve, on the contrary, exercises the sense of taste at the point of the organ.

In this point of view the sense of taste, reacting on the glosso-pharyngeal nerve, probably determines the acts of deglutition and regurgita-

tion. By the communications and terminations of this latter, it may act simultaneously on the amygdalæ, provoking their secretions; on the glosso-staphyl, which aids in closing the glottis and epiglottis, &c. &c. In the same manner the lingual nerve, receiving sapid impressions at the point of the tongue, may provoke contractions in that organ, and, in a word, harmonize and complete the function.

Gazette Med. de Paris.

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5. *Severe Epileptic Convulsions cured by compressing the Carotid Artery.* By M. Trousseau.—On Monday, the 11th of September, 1837, M. Trousseau was called to see, in consultation with Messrs. Chomel, Cerise, &c., a child of eight years, laboring under violent convulsions. The patient had had scarlatina in August, and shortly after, having been exposed to cold, he became œdematous, but only slightly so. The œdema had diminished on the 10th. In the evening the child complained of the head, and he passed an uneasy night. On the 11th he was unusually loquacious; vomited several times, and had most severe pain in the head. At three o'clock a violent fit of convulsions set it; ten leeches were applied to the ears, and sinapisms to the legs. A second attack came on shortly after the first, and when M. Trousseau arrived, he found the child stretched on the bed, with the head firmly thrown backwards; the jaws, eyelids, muscles of the neck, the arm and leg of the right side of the body were agitated with violent convulsive movements; the left side of the body lay quite tranquil; the pulse was tumultuous, 160; the pupils excessively dilated, and the breathing become stertorous. Under these circumstances, M. Trousseau proposed the cold effusion, not to exceed half a minute in duration. This was administered, but without effect. The convulsion had now lasted two hours, and life was fast ebbing away, when M. Trousseau conceived the idea of impeding mechanically the flow of blood to the brain. He, therefore, applied pressure to the carotid artery, but, in the hurry of the moment, selected the right carotid. The convulsions continued, and two minutes elapsed before he was aware of his error. The index-finger was now immediately placed on the left carotid artery, and in about fifteen seconds the convulsive movements suddenly ceased, the child falling into a kind of apoplectic stupor. Compression was kept up for an hour more, and, at the end of that time, the state of the child was very satisfactory. The sensibility, however, was perfect on the left side of the body, but was very dull on the right side, which lay completely paralysed. The compression was kept up at short intervals, and a drop of croton oil given, to act as a derivative. The child was somewhat uneasy during the evening, and manifested signs of cerebral excitement, but the convulsions did not return; the paralysis of the right side also disappeared in the night, and on the following day the child was very well. His convalescence was rapid.—*Jour. des Con. Med. Chir., October*, 1837.

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6. *Poisoning with Cream of Tartar.*—John Hudson, æt. 37, residing at 24, Southampton-street, Euston Square, employed by the notorious and self-styled *Dr.* Morison, at his pill establishment in the New Road, King's Cross.

On Tuesday evening, Oct. 10, he returned home extremely weak, and scarcely able to walk. He stated that he had been severely purged, had at least had twenty-five motions, attended with constant vomiting. On the previous day (Monday) he was drunk. The nurse told me, that one of Morison's men said he was sure Hudson had taken nearly a quarter of a pound of cream of tartar at one time, and that during the day he was continually putting small lumps into his mouth, to cool his stomach. The nurse also noticed a quantity of white substance at the bottom of the chamber utensil; she then asked him if he had been taking any salt. It was unfortunately thrown away.

11th.—At twelve o'clock he was seen by a medical gentleman, who found that during the night he had been repeatedly purged, and suffered greatly from constant vomiting. He complained of pain in the umbilical region, and of great thirst. Tongue brown and dry; pulse feeble; pain in the loins. The thighs and legs appeared paralysed. The fluid vomited was of a blackish green color, and the motions of the color of coffee-grounds. He stated that he had taken four or five table-spoonfuls of cream of tartar, which is a principal ingredient in Morison's cooling powders. An opiate was given to him, which afforded slight relief; but the symptoms returned, and he died on Thursday at noon.

14th.—I was requested to assist in making a post-mortem examination of the body. He was a strongly-built, well-formed man, stout and muscular; no spots or bruises upon the body. The fat covering the abdominal muscles about half an inch thick.

Stomach.—This was distended with gas, and contained about three ounces of a thick brown fluid, colored apparently with bile. Near the pylorus there were several red patches. The cardiac end of the stomach was very much inflamed, the mucous membrane being of a deep red color, with three or four spots of a blackish red, as if from rupture of some of the minute blood-vessels. The mucous membrane of the duodenum was also of a red color in many places, but not in so great a degree as that of the cardiac end of the stomach; it contained, apparently, the same kind of fluid as the stomach. A portion of the small intestines, as also the colon, had the mucous membrane reddened. The mucous membrane of the rectum was injected in small streaky red patches; where there was no redness, the membrane was of a white colour. The intestines contained a thick brownish kind of mucus; no fæcal matter was observable throughout their whole extent. A great deal of fat was attached to the large intestines, and the omentum contained a large quantity.

Chest.—The lungs might be termed healthy, though there were adhesions at the posterior part of the lobes of the left side, and at the anterior part of the lobes of the right, evidently of an old formation.

Heart.—A great quantity of fat about the pericardium. The heart was unnaturally large and flabby; the lining membrane of the left auricle was of a deep red color, as also the lining membrane of the aorta and semilunar valves. It weighed 13 oz.

Liver.—Large and very firm. On cutting it, an oily appearance was

left on the knife, and oil could be scraped from the cut surface. It weighed 4 lb. 11 oz.

Spleen healthy. Kidneys large, and embedded in fat.

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7. *Polypi in the Meatus Auditorus Externus.* By EDWARD J. DAVENPORT, M. D., BOSTON.

The lining membrane of the meatus, like the mucous surfaces of other cavities, is not unfrequently the seat of polypous excrescences. Professed works on the diseases of the ear afford, however, very meagre and unsatisfactory accounts of their origin, and the mode of treatment to be pursued for their removal. Polypi are referred, by the best authorities, to the occurrence of irritation or inflammation in the auditory passage or in the chamber of the tympanum, and are often found among the sequelæ of scarlet fever, measles &c. They consist chiefly of congeries of blood-vessels, loosely connected by cellular membrane, and possess a very low degree of vitality. Patients of a strumous habit, and those who have been exposed to a cold, moist atmosphere, are believed to be more particularly liable to these excrescences, as well as to other diseases of the ear. Recent polypi are of a soft and spongy consistence, of a reddish color, and bleed easily when injured. When first presented for examination, they are always found surrounded and partly concealed from view by a thin, purulent fluid, secreted by the diseased ceruminous glands, and probably by the surface of the excresence. The above-named glands take on a morbid condition from the constant irritation of the polypus, which acts as a foreign substance, and the increased and vitiated secretion is both a proof and effect of their presence. The discharge is not always thin, but varies in consistence, being sometimes thicker and more like pus, particularly when the disease is of long standing. It may, likewise, be fœtid and acrimonious.* After a time, the tumor will be found denuded of its cuticle or excoriated, and sometimes ulcerated. In those cases in which a portion of it protrudes beyond the limits of the meatus, and is exposed to the influence of the atmosphere, the extremity, being unprotected by the discharge, becomes somewhat hardened, and of a whitish color, similar to the cuticle of external parts.

Polypi of the ear have, in general, a narrow neck or peduncle, while the body of the tumor may nearly fill up the auditory passage, and diminish to a point externally, sometimes projecting 4 or 5 lines beyond the orifice of the meatus. In many cases, however, the origin of the tumor is equal in size or larger than the body, and then the latter assumes a conical form;† in others, there is no more than one tumor springing apparently from the same base. Polypous excrescences may grow from the parietes of the auditory passage, or from the surface or the edge of the membrane of the tympanum, but perhaps their most frequent origin is from the lining membrane of the chamber of the tym-

*Vide Buchanan's Illustrations of Acoustic Surgery.

†Sometimes they have the *form*, color, and consistence of a strawberry.—Vide Saissy on the Ear.

panum,* this cavity being frequently the seat of abscesses and purulent collections, after an attack of scarlet fever. In the latter case, the membrana tympani is uniformly more or less destroyed or perforated, and fluids injected into the ear will often pass into the throat, much to the annoyance of the patient.

As to the progress of polypi, under ordinary circumstances they are of slow growth, and they may exist for many years without impairing the general health. But not so with respect to the sense of hearing, which is always more or less impaired by the mechanical obstruction of the tumor, and most commonly is irretrievably lost by the ulceration of the surrounding parts and the destruction of the membrana tympani, and the consequent loss of the ossicula auditus. Cases, however, have been reported of the recovery of hearing, upon the removal of polypi of many years standing.† In these instances no doubt the tumors grew from the parietes of the meatus, and merely presented mechanical obstacles to the passage of vibrations of the air to the membrana tympani, without destroying the internal mechanism of the organ.

Among other causes of polypi, may be mentioned blows and falls upon the head, a spiculum of bone forming a nucleus, the frequent use of an ear-pick, causing irritation, &c.

In the treatment of this disease, as might have been expected, injections into the ear have been much resorted to. These have consisted of solutions of stimulating and escharotic substances, infusion of tobacco, &c. Their removal has also been attempted by repeated applications of caustic in a solid form, by the knife, by ligature, and, finally, by extraction or laceration. In children, and where the polypus is of small size and recent, a cure may usually be effected by the frequent application of a strong solution of sulphate of zinc—℈ij. to ʒi. to one ounce of distilled water; or it may be slightly touched with a camel's hair pencil dipped in the tincture of muriate of iron, once each day, until its removal is effected, after which the parts may be dressed with weak citrine ointment on soft lint. Extraction of the tumor has the merit of being at once effectual and perfectly safe. It is most easily accomplished with a pair of artery forceps. The patient being placed so that the rays of the sun will fall in a line with the direction of the meatus, and the external ear being slightly elevated and drawn backwards, so as to reduce the curvature of the passage, the forceps are to be firmly applied, as near as possible to the origin of the polypus; then giving the instrument a half turn and withdrawing it at the same time, the tumor is displaced and removed. The hemorrhage that follows the operation is not of serious consequence, and generally ceases spontaneously. In one case it is stated that nearly five ounces of blood were lost, and the patient was benefitted thereby. Usually the quantity is very much less than this. Should any portion of the excrescence remain, or a fungous growth take place, powdered alum may be applied daily; or a mixture of creosote with almond oil, in the proportion of one drop of the former to six of the latter, may be dropped into the meatus once or twice

*Vide Stevenson on the Ear.

†In one instance fourteen, and in another seven years.

each day. This latter remedy has the farther advantage of restraining any purulent discharge that may continue from the diseased state of the tube.

I subjoin an account of two cases in which polypi were removed by ligature. The first occurred in a young woman 18 years of age, of delicate health and pale complexion. Of her case I have the following notes. Six years previous to her application, she was attacked with slight otorrhœa in the right ear, for which she could assign no cause. During this period, the discharge had never ceased entirely, but a few months since, previous to the formation of an abscess in the meatus, it diminished greatly for a short time. It has varied from time to time in amount, quality, and consistence, being sometimes sanious and bloody, and at others more like true pus. The ear has not been generally painful, except during the formation of the abscess mentioned above. Hearing, in this ear, is nearly or quite extinct, but in the left ear it continues perfect, except when suffering from catarrh, to which she is subject. Upon examination there was found, filling up the meatus, a polypous excrescence of a pale red color, having its surface granulated somewhat like a mulberry, and its body divided into two portions, uniting at the base of the tumor in the chamber of the tympanum. The origin of the tumor was ascertained by means of a small, blunt probe. It possessed but little sensibility, but bled upon the slightest touch, even upon injecting the passage with simple water for the purpose of removing the copious secretion of purulent matter, with which it was enveloped. The lining membrane of the meatus was in a state of high inflammation, with increased sensibility and tenderness. The mother of this patient has been affected with otorrhœa, more or less, since childhood, and her hearing is impaired. The tumor was removed two years ago, with a flexible silver wire ligature introduced by a small eye probe, as near the base as possible. A slight hemorrhage followed the operation, but ceased spontaneously. Otorrhœa continued for a time, though much less than before. Hearing was not improved. At the end of five or six months, she returned with otorrhœa somewhat troublesome, and with occasional pain referred to the meatus. A fungus, of a granulated appearance and florid color, was now perceptible near the edge of the membrana tympani. Upon touching it with a pencil dipped in a saturated solution of nitrate of silver, it bled freely. Upon the use of creosote injections and the occasional application of a blister, all the unpleasant symptoms subsided.

Two months since, this patient had a slight return of otorrhœa from cold, which induced her to apply, from the apprehension of a recurrence of the polypus. Not the slightest trace, however, of this could be seen, and the otorrhœa was soon checked by the usual remedies.

The second case occurred in the person of C. M., a native of Germany, 28 years of age. In this patient there was a large, firm polypus in the left ear, with destruction of the membrana tympani and entire loss of hearing; and in the right ear, a troublesome otorrhœa with perforation of the tympanum, and the sense of hearing very much impaired. He had otorrhœa in the left ear since he was a child, and in

consequence of cold and wet, while on his passage to this country two years ago, he experienced a severe attack of pain in head and ear, attended with increased discharge of purulent matter from the meatus. Soon after he perceived a polypous excrescence in the auditory tube, which remained about the same in size up to the time when he applied for advice. There has been a constant foetid discharge from his ear, occasional hemorrhage, more or less pain, and a buzzing *(bourdonnement)* or roaring noise, which equally affects both ears. The disease in the other ear he attributes to a violent blow on the right side of the head from a stick of wood, when about 16 years of age. This was followed by a discharge of blood mixed with pus, and at the same time a diminution of the power of hearing. The degree of hearing varies, however, at different times; thus when affected with catarrh, hearing is more imperfect; likewise when, from any cause, the discharge from the ear is materially diminished in amount, he does not hear so well as usual. This circumstance has been noticed in other cases where the membrane of the tympanum and the chain of little bones have been destroyed, and it is explained by the supposition that the matter acts in some measure as a substitute for these parts in conveying the vibrations of the atmosphere to the labyrinth, the immediate seat of the sense of hearing. In this ear the parietes of the meatus and the edges of the membrana tympani were much inflamed and thickened—not an uncommon state in chronic affections of the ear attended with purulent discharges. Injections passed from the ear into the throat, and air could be forced through the meatus. The polypus, which was somewhat firmer than usual, was removed by ligature. No bad conseqences followed the operation; but the hearing was not at all benefitted, when the patient changed his place of residence, and was not again seen.

In the case of a child, 6 or 8 months after an attack of scarlet fever, a polypus of the meatus was removed entire, which presented a narrow peduncle, with a broad root or base, by which it was attached within the chamber of the tympanum. In another case, of a young girl from the country, a polypus existed at the same time in each ear, the result of measles or scarlet fever. This patient retained a slight degree of hearing. Other cases have fallen under my observation, the particulars of which I cannot now recall to mind.

No. 4 Winter street, Nov. 1837.

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8. *Intermittent Neuralgiæ.*—Dr. McPhail, of the army, has communicated to the American Medical Library and Intelligencer, five papers on the diseases that prevail in the south-western parts of the United States, under the title of Medical Topography, which show him to be a man of critical observation, a careful practitioner, and a desirable correspondent. Dr. McPhail's observations on the particular subject of intermittent neuralgiæ, constituting the fifth article of the series, is that which has most interested us, and this circumstance has led to the publication of the spirit of it in this place. He represents that *periodical affections, not strictly febrile*, are common in Arkansas. We should judge that they were painfully so from the remark that follows: "I have treated cases of intermittent frontal, facial, digital and articular

neuralgia, cephalalgia, odontalgia, otalgia, gastralgia, hepatalgia and pneumonalgia. This last form of affection has, I believe, not yet been noticed by medical writers." Dr. McPhail describes this as so much resembling inflammation of the lungs, as to have deceived the physician, who, by adopting a treatment indicated by what was supposed to be the condition of those organs, well nigh brought on fatal results. He goes on to say, that neuralgia, depending upon the influence of malaria, may be easily distinguished from that having its origin in morbid alteration of the brain or nervous centres, the generation of tumors, &c. In cases of tic douloureux, depending upon malaria, the paroxysms are generally periodical, passing off speedily. Those, however, depending on organic changes, are characterized by an almost constant pain, remitting, or in fits of long duration. In those instances where the brain, nervous trunks or slender filaments, like the frontal or facial twigs of the fifth pair, or the digital branches of the median or ulnar nerves, have been the seat of the disease, the pain has ordinarily been quick, sharp and shooting. When the liver, spleen, or stomach were attacked, then the pain has been dull, gnawing, or having the sensation of burning. These are nice distinctions, not to be lost sight of by the practitioner, let his residence be where it may. Again, when the organs of reproduction are the seat, then the pains are lancinating. In the supra-orbital nerve, the true character of the affection may be recognized by a contraction of the pupil, in some individuals, and in some which came under this gentleman's eye, a sanguineous suffusion of the conjunctiva, with intolerance of light, and profuse lachrymation, were the accompaniments. If the infra-orbital nerve gives evidence of being affected, it is manifested by muscular twitchings; the same may be said of the sign of neuralgia in the facial threads of the inferior maxillary.

There is a necessity for passing over many paragraphs quite as interesting, evincing the writer's powers of investigation. The treament is an essential appendage to the foregoing epitome of Dr. McPhail's valuable communication. In those attacks of the small nerves of the head, face, and jaws, adverted to, if there is no appreciable disturbance of the general economy, in the interim between the attacks, to use his own expression, he gives "two grains of the sulphate, or a quarter of a grain of the arseniate of quinine, in pills, every two hours—with from six to twelve grains of the sulphate or one grain of the arseniate at the period of time next that of the expected paroxysm—always with the effect to prevent a recurrence." By pursuing this course till the terms of two or three paroxysms pass by, a pill of two grains of sulphate or phosphate of quinine or arseniate of quinine and piperine, or six or eight drops of Fowler's solution, twice or thrice a day, finishes the treatment.

In two cases of hysteralgia treated at Fort Jackson, below New-Orleans, on the Mississippi river, Dr. McPhail speaks of hysterical mania in its most frightful form, complicated, in one instance, with dysmenorrhœa.

The scheme so fully and perfectly carried out in writing the medical topography of the region in which he is temporarily located, is very

honorable to the author, and it moreover redounds to the character of the medical department of the army of the United States, that talent and learning, of so high an order, are to be found in the staff. The appeals which have been unremittingly made to the profession to study the character of diseases where they reside, the causes which produce them, the modes of treatment, and the result on the public health, seem to have been absolutely forgotton. However, we feel no less solicitous on this account, discouraging as it may seem, to persevere, and we shall continue, therefore, to urge upon the consideration of our readers, the claims of the people upon them to be active in the inquiry. How is it possible to obtain pathological facts of topographical value to a succeeding generation of physicians, if the present occupants of the soil contribute nothing towards the object?

Boston Medical and Surgical Journal.

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9. *A case of Malformation of the Septum Narium.*—From youth up, persons with whom I conversed, often justly complained of my indistinct enunciation, and remarked that it was oftentimes impossible for them to understand many words I uttered. Being reminded of this defect by teachers and friends almost from the moment I was able to articulate the first words in childhood, until I had attained to maturer years, I made constant efforts to overcome the difficulty, and particularly in all words, which I had occasion to use, having the nasal sound, yet without any success. I was, therefore, greatly to my annoyance, compelled to sit as a silent listener to the conversation of others. It was not until the summer of 1830, that I began to suspect the real cause of all my trouble. From my then entire ignorance of the true *nature* of the difficulty, I was apprehensive of serious consequences, and consulted the most eminent neighboring surgeon. Not comprehending its character, his prescriptions tended to increase, rather than lessen, my affliction; for the local use of iodine ointment and tincture had not a very soothing effect on the delicate and sensitive surface of the schneiderian membrane. Great determination of blood ensued, and consequent thickening of its tissue. After this, the same surgeon advised me to have an incision made through the ala nasi to the nasal process of the superior maxillary bone, and then the offending substance removed. To this I declined, as there was already too great a disfiguration of the nose, without the addition of a cicatrix.

I then applied to another surgeon, a professor in a medical institution, and was advised the same operation, to be performed in the same way. I lastly repaired to Philadelphia, and consulted Dr. George McClellan, of the Jefferson Medical College. This gentleman, for the first time, pronounced it a congenital malformation of the septum narium. Upon examination, it was ascertained to commence where the cartilaginous septum joins to the vomer; thence inclining to the right of the mesial line, it completely obstructed the right nasal passage, giving to the external appearance of the nose a very marked lateral curvature. Professor McClellan commenced the operation of extirpating the septum by passing a sharp-pointed bistoury through its inferior portion, with the edge quite to the floor of the nostril; then adroitly curv-

ing and carrying it posteriorly nearly to the vomer, it was turned upwards and then forwards to the place of beginning, entirely removing the septum, without in the least interfering with either alæ.

Since that time, thanks to the skilful hand of the operator, my nose has become straight, my enunciation good, and I am enabled to breathe without an half-opened mouth. AN M. D.

November 1837. *Ibid.*

10. *American Crania.*—[At a late meeting of the medical section of the British Association, in Liverpool, Dr. Warren, of this city, made the following remarks, as published from the notes of a stenographer; but they are not, we are informed, exactly reported. Probably a more precise account will be published hereafter.]

Dr. Warren, of Boston, U. S., was called on for his paper on "Some remarks on the crania of the Mound Indians of the interior of North America, as compared with the crania of the South American Indians of Peru." As a stranger, though not exactly a foreigner, he felt it his duty, for the very valuable information he had received at the meetings of that section of the association, to make some contribution towards the facts which the British Association had so sedulously collected. There were some facts peculiar to that part of the world in which he resided, which, of course, could not come within the cognizance of the members of the association, and he would endeavor to state them; whether they would be considered important or not would be for their consideration. A considerable number of years ago, he accidentally came into possession of a cranium which struck him as an extraordinary one, and on examination he found that it differed from the crania of the well-known races, and the individual nations composing those races. He was led by this to make some inquiry into its history, and he ascertained that it came from the banks of the Ohio river, far back in America, in what was called the Western Country, and that it was discovered in a cavern on the top of a high and almost inaccessible rock, at the distance of about forty or fifty feet from the banks of the Ohio, by some hunters pursuing an animal, which took refuge in the cave. They there found the scull and the other bones of the body, in a fine state of preservation. The bones were so situated that they might have been there for several ages without decomposition, the calcerous rock which formed the bottom of the cavern absorbing all moisture. From the inaccessibility of the place in which they were found, it was probable that they had remained there for centuries. It was natural to suppose that this head must have been one of the aboriginal Indians of North America; but, on examination, he ascertained that such was not the fact, its whole structure being different from the Indian crania. He suspected that it might have connection with those races which had been discovered to be deposited in the ancient works or mounds of North America, and he soon obtained heads from that part of the country, and satisfied himself of the fact. He would presently state the particulars in which they differed from other heads. They had frequently heard of the mounds in the interior of North America. They were exceedingly curious, and many of them were found in

wilds which had scarcely been trod by the foot of civilized man, and were covered with immense forests. They found elevations of earth which were quite extraordinary, and would be so even in any country. These mounds were covered by immense trees, and the observer was struck at once with the great antiquity which must belong to them. There were different kinds of mounds. There were some which had a great resemblance to fortifications, regularly made and of considerable extent. There was one at Circleville which was more than a mile in circumference, and which was surrounded by a wall or fortification, about thirty feet in height, with regular openings in different parts of it, and these openings guarded by interior works, similar to those in fortifications in the present day. These mounds were generally situated near the confluence of important rivers; there was one at the conflux of the Ohio and Muskingum rivers; they were so situated as to command the passage of the rivers. The mounds were perfectly regular, flat on the summit, and frequently a sort of excavation on the top of the summit. They were partly intended for the purposes of interment, and partly for places of worship; and probably the excavation found on the summit was a place where human sacrifices were made. Some of these works were very similar to the great temple at Cholula, in South America. These works were of very great extent, extending a length of 1000 miles, from the banks of the great lakes in Canada to the Gulf of Mexico, and filled all the most fruitful parts of North America. The heads he had spoken of as having obtained were taken from one of these circular mounds. The head in question, in common with all heads taken from these mounds, differed from the Indian and European formation. There was less extension of forehead than in the European head, but it resembled it; the elevation of forehead being equal to the *Caucasian* race. The vertex also was uncommonly elevated. The seat of the organ of veneration seemed to be very much developed, and it was evident that they were a very religious nation, for there was evidence that they made many human sacrifices. The formation of the skull approached to the Peruvian. But the most remarkable fact was the flattening of the *occiput*, which gave the *cranium* a peculiarly rounded form, and some even were quite circular. The occiput also was almost always more flattened on the right side than on the left. Another peculiarity in these heads was that the palatine fossa was of a rounded form. The lower we descended in the scale of races, the nearer we approached the animal formation. They knew that in the animal formation the jaws were very elongated, which gave animals greater perfection in taste and smell. There was an approximation to the African race in a small degree in the North American Indian; but as we rose to the Caucasian race the palate was shorter and smaller; so that taste and smell were inferior in the Caucasian races. Animals probably had a power in discriminating noxious smells and herbs, which we had not.

After he had been in possession of these heads for a number of years, he was anxious to generalize his remarks. When he was expecting contributions from the interior part of the country—for the mounds were situated very far from the part where he lived—say a thousand

miles—it was difficult also to obtain these bones, as many of them were found in a state of decomposition—he found, one morning, three heads lying on his table. He immediately examined them, and supposed them to be skulls of the Mound Indians. But a few days after, the gentlemen who had furnished them came to Boston, and said to him that these were the heads of Peruvians, and that they were taken from an island near the city of Lima, a place renowned amongst Peruvians, where Mango Copac was said to have descended from the Sun, in order to enlighten the Peruvian race. He afterwards showed the skulls to Dr. Spurzheim, and he said they were all precisely of the same race. He perceived that the organ of constructiveness was peculiarly developed in all these heads. Inquiring further into the history of the Peruvian heads, he found three descriptions; one similar to the one he had been describing, having a flattened occiput, temples wide, and forehead particularly elevated. But there was another description much more common, which was of an oblong form, and very much resembled an egg in shape. In this, the occiput, instead of being compressed and flattened, was very prominent indeed. Then, there was a third kind of Peruvian head, which did not exhibit any marks of compression. The first kind were all remarkably irregular, and wanting in symmetry. These heads had evidently been artificially flattened on the occipital and frontal part, and were well known to belong to the Inca race of Peruvians, as they were taken from the place where they were buried; and they also had some specimens of the people amongst them.

[The lecturer here described that a whole family of the noble race of Inca had been buried with their clothes, and every part of them in a surprising state of preservation, just as they lived before the Spanish conquest. The tomb in which they were found was circular, like a well, lined with bricks, and near the bottom a flat stone was put down, supported at the sides like a floor, leaving a large cavity underneath. The bodies were then put into the tomb upon this stone, and loose earth thrown over them. The cavity underneath the tomb drained off the water and damp, and thus the bodies were preserved.]

Having traced the exact similarity between the Mound skulls and the Peruvian skulls of the Inca race, the conclusion was irresistible, that these two people had a similar origin. Now they were situated at a distance of 1000 or 1500 miles from each other, and the heads of the intervening nations were entirely different from the one or the other. At first this appeared to him very extraordinary. And here he might remark on the great importance of investigations by anatomists to point out the history of those nations which tradition did not hand down. There was a race between these two races, and they had heads almost as flat as a pancake.

[A Peruvian head was here exhibited, which had been subjected to artificial compression, and which was nearly square, being perfectly flat behind, and nearly so on the forehead.]

He must say, for the benefit of phrenology, that so far from the intellects of these flat-headed persons being inferior, the Indians who possessed them were quite equal in intelligence to others of the same nation. He had the head of a celebrated chief, who had a most extraor-

dinarily flattened forehead, and he was known to have remarkable talent. In fact, no person was thought of any consequence in that country, unless he possessed a flat head.—[A laugh.] They then legitimately inferred, that these two nations were closely allied to each other—that was, the nations who had inhabited the mounds, and the Peruvians, because there was no resemblance between the heads of these nations, and any other heads that were known.

He might conclude, with just intimating that there had been observed to be a resemblance between these two sets of heads, and the heads of the Hindoo race; the same rounded form, and similar smoothness in the bones of the head and face. The conclusion drawn was that the race of the Mound Indians was entirely dissimilar to the North American Indians; and second, that they were entirely similar to the Peruvian race, which would lead to the inference that these two were one race. The American Indians, he thought, had emanated from two different sources, one from the south part of America, and the other from the North West Coast.

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11. *Nitrate of Silver in immense doses.*—There resides in the vicinity of London, a gentleman whose face must be familiar to many thousands of its inhabitants. His skin is intensely blue, from the internal use (or abuse) of nitrate of silver. He is now about 73 years of age, and at the age of 45 became affected with epileptic fits of the most violent and distressing kind. In these attacks he struggled so strongly that it required two or three people to hold him. The fits also were very frequent, and in one of them he totally and forever lost the sense of hearing. A most distressing noise in the head, however, has ever since harassed the patient. After trying various remedies for the epilepsy, without the least benefit, he was advised by the late Dr. Curry, of Guy's Hospital, to enter on a course of the nitrate of silver, beginning with small doses, a quarter of a grain three times a day, gradually increased. In the course of a few weeks the attacks began to diminish in intensity, and in a few months, the intervals became much lengthened. The medicine was continued in augmenting doses till the epileptic paroxysms entirely ceased, which they did within six months from the commencement of the course of medicine already mentioned. Dr. Curry never warned the patient as to the effect of nitrate of silver on the skin, if long continued, and the physician himself dying about this time, the patient persevered with the medicine for the space of three whole years, the dose being eighteen grains a day for nearly all the third year! The patient, who is a highly intelligent man, avers that he never experienced any unpleasant effect from the medicine—indeed, he felt no effect at all, except its remedial power in arresting the epilepsy. Not having any idea of its physiological agency on the skin, he continued the nitrate with the view of effectually guarding against the return of the malady which he so much dreaded. It does not appear that the blue color made any serious advance till towards the close of the third year, otherwise it is probable that he would have taken alarm, or that he would have been apprized of the circumstance by his friends. At this remote period, however, he cannot distinctly re-

collect the exact time when the blue tinge of the rete mucosum commenced or acquired its complete acmé of intensity. This fact is of considerable interest, as there is probably no case on record where such a quantity of the nitrate of silver has been taken, or continued so long. It accords with our own experience as to the absence of any sensible physiological effect on the stomach and bowels which usually attends the administration of this medicine—unless we except a certain soothing agency—probably the consequence of obtunded sensibility in the gastro-intestinal nerves and tissues. In all cases excepting epilepsy, however, it is never necessary to give more than a grain or two of the nitrate daily (pills made up with extract of liquorice) and not continued beyond a few weeks at one time. Combined with the compound extract of colocynth, also, it forms an excellent remedy for irritability of the primæ viæ attended, as is often the case, with torpor of the bowels and vitiated secretions.—*Brit. and For. Med. Rev.*

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12. *Sir F. Smith on Creosote as an external application.*—The observations of Sir Francis Smith were originally read to the College of Physicians in Ireland, and have been published in our esteemed contemporary of Dublin, May 1837.

Sir Francis observes that practitioners in this country evince an indisposition for the use of new remedies—an indisposition, which, he thinks, amounts to a vice, although in its origin a virtue. We feel some doubts of the correctness of Sir Francis's opinion on this point. We see, in practice, in London, little evidence of the bashfulness which he deplores, nor of that coy reluctance to prescribe new drugs, which in Ireland would seem to amount to a vice; nay, could we trust the evidence of our senses, we should rather deplore the wholesale manner in which the new medicines are abused, and the want of discrimination, we might sometimes say of common sense, which is evinced in their selection or their distribution.

Sir Francis has not made many experiments on creosote, and those experiments have been confined to its external application. He observes that one source of discrepancy in results will exist in the difference of specimens made use of; the strength or concentration differing much both from the variety in the mode of preparation and purification, and also from the mode of preservation. That which he has always used from the Apothecaries' Hall, of sp. gr. of 1,064, and nearly colorless. He has tried the creosote in three cases, or rather, he relates three cases in which he has tried it.

Case 1. A gentleman had phymosis, with the outside of the prepuce covered with ulcers of a ragged phagedæmic appearance, with a good deal of constitutional disturbance. Some alterative doses of blue pill, in combination with morphia and tartar emetic, were prescribed, with soothing applications to the parts. This treatment had the effect, in conjunction with the recumbent posture, of quieting the constitution, and diminishing the tension of the parts. But every means was tried in vain to cause the ulcers to heal; they still preserved their phagedænic character, and at length united into a zone, nearly surrounding the

prepuce, and threatening its destruction. Sir F. Smith now applied the creosote pure with a pencil. Next day the sores were improved, and had contracted one-third in diameter. Being lightly touched every day, for six days, they were entirely healed.

Case 2. A young gentleman, much broken down in constitution, became affected with an abscess by the side of the anus, which opened near the latter. On passing a probe into the orifice, says our author, "I found an orifice through which the matter, which amounted to an egg-cup full, had been evacuated; and in passing in a probe, I found it to enter about one inch, passing upwards, and resting on the side of the gut; on further investigation, I found that the sinus branched about midway its course into another cul de sac, which passed rather away from the gut, and presented to the probe a rough, yielding, spongy sensation; at the opposite verge of the anus an inflamed pile existed." The soothing plan was continued, but did not answer; under these circumstances, the creosote was resorted to. Sir F. introduced to the bottom of each cul de sac a very small dossil of lint smeared with it. In two days more the creosote was repeated, and four more applications spread over a fortnight, nearly perfected the filling up the sinus. The red precipitate afterwards completed the cure.

Case 3. A lady of a scrofulous habit, had had for some months ulcers of the septum narium, which had resisted much and varied treatment. Sir F. resolved to do nothing but employ the creosote locally.

"The ulcers amounted to four, varying in size from the head of a pin to the section of a very large pea; three on one side of the septum, and one (the largest and the first which had made its appearance,) on the other side.

I at first made use of a wash, consisting of one part creosote, with sixty of water; in which proportions they unite at common temperatures; the wash to be snuffed up the nose frequently in the day. The odour was complained of as very disagreeable, and at the end of two days, I was disappointed by finding that I had made no progress in improving the appearance of the ulcers. I now determined to apply the creosote in its pure form, and began by pencilling the edges of the ulcers with a brush smeared with creosote, and directing the patient to inhale the fumes of acetic acid for a few seconds subsequently. The application of the pencil was rendered easy by firmly grasping the ala nasi, and drawing it outwards; and I advised the inhalation of the fumes of acetic acid for two reasons; first, because acetic acid is the proper solvent of creosote, and would, by being inhaled immediately after its application, have the effect of rendering its action more equable and uniform; and secondly, because the odour would tend to counteract the disagreeable fuliginous flavor of the creosote. The next day I had the gratification to find the character of the ulcers improved; the edges were much less abrupt, and I now determined to apply the creosote lightly over the whole of the ulcer on the left side of the septum, and to brush those on the right side with a solution of creosote in twenty parts of acetic acid; and I continued to do so on alternate days for a week, at the end of which time, the ulcer on the left side of the septum was reduced to a mere point, having every appearance of imme-

diately healing; whilst those on the right side, though improved in appearance, having smooth edges gently declining towards the centre, still preserved their original dimensions. I now applied to them also the pure creosote, repeating the application on alternate days, accompanied with the inhalation of the fumes of acetic acid. The rapidity with which the ulcers now healed was truly wonderful. That on the left side, to which I first applied the creosote in a pure state, was completely healed in ten days, and those on the right side, in six days after the application of pure creosote, and sixteen from commencement of treatment."

Sir Francis observes, that for small ulceration in the mucous membrane the pure creosote is most effective—that the solution of one part in twenty of acetic acid is not destitute of power—but that the solution of one part in sixty of water is only adapted for ulcers where the surface is large.

There can, we think, be little question that the creosote is an useful application where a powerful stimulant is wanted. It must be classed as a local agent with the balsams, the compound tincture of benzoin, &c. Probably those surgeons who possess the greatest amount of experience will be least disposed to attach to it any very marvellous properties.—*Med. Chir. Rev.*

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13. *On the treatment of Ileus with Belladonna Clysters.* By Dr. Wagner, District Physician at Schlieben.—The following cases are given in illustration of the treatment recommended by Hanius.

Case 1. On the 21st of April, Dr. Lohrenz, of Schonewalde was called to visit a man, aged twenty-three, who had been complaining, since the 19th, of violent pains in the umbilical region. The pains came on periodically, and were greatly exacerbated by pressure, so that the patient screamed out when touched. He had incessant retching, his belly was hard and tense, and he had been several days without an alvine evacuation. Venesection, leeches, enemata, and various other external and internal remedies, were employed without any effect; his symptoms increased in intensity, and on the 22d, he had subsultus, syncope and vomiting of feculent matter. His belly was tympanitic, hard and painful, his bowels obstinately costive, his pulse scarcely to be felt, his anxiety intolerable, and his body covered with a clammy sweat. Under these circumstances, Dr. Lohrenz had recourse to clysters of belladonna. One half of the lavement was first injected; and unlike the other enemata, which were almost immediately rejected, this was retained, and had a marked effect in calming the violence of the patient's symptoms. His countenance became more cheerful, and his abdomen softer, but the pupils became greatly dilated. Half an hour afterwards, the second half was injected, and produced the most decided improvement. It was speedily followed by copious evacuations from the bowels, the pulse rose, the pain and vomiting ceased, and next morning the patient felt quite restored, and has not had since that time any return of his complaint.

Case 2. On the 4th of June, Dr. Wagner was called to see a laborer's wife, aged 40, of spare habit, but otherwise robust and healthy. The

patient complained of a violent cutting sensation in the bowels, with obstinate costiveness and incessant vomiting. She had had repeated attacks of the same description before, but much milder, and of brief duration. On examination, he found a hernial tumour in the right groin, about the size of a walnut, and so excessively tender on pressure, that she could not bear the slightest touch. The belly was tympanitic and tender, the pulse small and rapid, the face pale, the body moderately warm. A large venesection was premised, and all the usual internal remedies (except quicksilver) tried without any effect; clysters of all kinds were employed, but proved equally ineffectual. The patient refused to submit to a second venesection or the application of leeches, and rejected altogether the proposal of an operation. On the 5th, all her symptoms were increased; her thirst was excessive, and she had fecal vomiting, with suppression of urine. In this state of things, Dr. Wagner had recourse to the belladonna clysters. He infused a drachm of the root of belladonna, and an ounce of chamomile flowers (he does not state how long) in twelve ounces of water, and divide the infusion into three parts. The first part was administered by himself as soon as it was cold, and produced very remarkable effects. The nausea and vomiting instantly ceased, and half an hour afterwards, the belly was soft, without much tenderness on pressure, and the hernial tumour much less tense, though still painful. None of the secondary bad effects of belladonna were observed. On visiting the patient at noon, he found her quite easy and contented, but laboring under dilatation of the pupils. She told him that she had been threatened with a repetition of the attack about half an hour before, but she had stopped it *by drinking a few spoonsful of the clyster mixture.* In the evening, when seen by Dr. Wagner, she complained of a return of the abdominal pain and tension, and as there was no indication of the secondary effects of the belladonna, except some dilatation of the pupil, he administered the remainder of the infusion. The patient passed a quiet night, with the exception of some troublesome dreams, and, on the following morning, the abdominal symptoms were mild and inconsiderable, except that the hernial sac remained extremely tender on pressure, and the incarcerated portion of intestine could not be replaced. At noon, the soreness and tension of the belly increased again, and as no alvine evacuation had as yet taken place, and there were no apparent bad consequences from the belladonna, Dr. Wagner repeated the infusion as before. The first dose produced the usual tranquilizing effect; but no further change; and as the constitutional effects of the remedy were limited to some increase in the dilatation of the pupils, with unpleasant dreams, he administered the second portion, and, towards evening, the third and last.

On the morning of the 7th, the hernial tumour had disappeared, loud borborygma were heard in the abdomen, and large evacuations of offensive fæces took place; but the patient, after having been annoyed the whole night with frightful dreams, was suddenly seized with such furious delirium, that it required several strong men to hold her. Her eyes was fixed and sparkling, the pupils excessively dilated, the conjunctiva injected, the cheeks of a fiery red, the pulse small, rapid, and

scarcely to be felt, *deglutition unimpeded.* She saw nothing but strange phantoms, which she sought to drive away by abuse and threats, and searched for concealed enemies under her bedding, clothes and furniture. She believed herself perfectly well, wished to resume her domestic labors, pulled on her clothes with furious violence, and would have rushed out of the house had she not been held by force. Dr. Wagner ordered enemata of vinegar, (which were followed by copious evacuations,) and gave vinegar with strong coffee internally, of which the patient drank large quantities with much desire. Cold lotions were applied to the head, and the limbs were washed with vinegar, an operation which the patient herself performed with apparent satisfaction, washing herself with vinegar from head to foot. This state of things continued until the morning of the 8th, when the patient became rational and composed, but complained of flashes of light and various other optical phantasms, with a sense of great weight and pressure in the head, and a general feeling of soreness and exhaustion, particularly in the feet. She recollected distinctly every thing she had said and done during the preceding day and night, and said that the horrible phantoms by which she was incessantly surrounded had compelled her to act and speak in the manner she had done. On the ninth, she complained of nothing but weakness; which soon disappeared, and she recovered rapidly, without any farther unpleasant symptoms.

Case 3. On July 3d, a smith, aged 59, was attacked with enterodynia, vomiting, tympanitic swelling of the abdomen, and constipation. Dr. Wagner was called to see the patient, and found an incarcerated hernia of the left groin, about the size of a hen's egg, and extremely sore to the touch. All external and internal remedies, repeated local and general bleeding, and frictions over the abdomen with extract. belladonnæ and ol. hyoscyami, proved wholly ineffectual. Every thing was instantly vomited up, and the clysters were immediately returned. As the patient would not submit to an operation, Dr. Wagner threw up an enema, composed of a scruple of the belladonna herb, and half an ounce of chamomile flowers, in four ounces of water, which arrested the vomiting immediately, and produced such a diminution of the pain, that the patient was able to enjoy several hours' sleep. The abdominal symptoms, however, returned every six or eight hours, and were four times allayed by the use of the same enema. On the 5th, return of the pain and tenderness; Dr. Wagner was afraid to have recourse to the belladonna, as, in addition to great dilatation of the pupils, frightful dreams, sinking and acceleration of the pulse, and dryness of the tongue, had taken place; and he prevailed on the patient, after much entreaty, to submit to the operation. This was performed successfully by Dr. Weistand, on the 6th, and in fourteen days the patient was quite well.

Case 4. On the 5th of July, Dr. Wagner was called to a woman, aged 47, who was said to have been laboring for two days under violent pains in the abdomen, obstinate constipation, and incessant vomiting. On making an examination, he found an incarcerated femoral hernia of the right side, about the size of a small walnut, and excessively tender to the touch; diffused abdominal tenderness and tympanitic dis-

tention. Bleeding, leeching, frictions over the abdomen with belladonna and hyosciamus, and various other remedies, were employed without any effect; and the symptoms assumed a very alarming character. As the patient refused to submit to an operation, Dr. Wagner had recourse to the belladonna clysters, which produced the usual tranquilizing effects, but the hernia remained irreducible, and the patient began to exhibit some of the symptoms of poisoning, as dilatation of the pupils, sparkling of the eyes; a fiery red color of the cheeks, and acceleration of pulse. Blood was now drawn from the arm, small doses of calomel and laxative salts given internally, and the belladonna clysters continued, until six lavements (each composed of ℈i. of belladonna to ℥iv. of water) were used. The hernia, however, remained irreducible, and as the patient would not submit to an operation, Dr. Wagner discontinued his visits on the 8th. On the 9th, however, the greater part of the hernial tumour had disappeared, the patient had several copious stools, and in the course of two days, found himself quite well.

[The foregoing cases show that belladonna, like tobacco, is a remedy of great efficacy in subduing symptoms of ileus connected with incarcerated hernia. It has also the advantage of relieving pain, without substituting for it the horrible sickness and sinking of the vital powers, which results from the use of tobacco. Two facts, however, connected with the history of belladonna, will always tend to diminish its applicability; namely, its tendency to accumulate in the system, and then explode with fearful violence, and the well known fact, that its specific powers vary in a remarkable degree according to the place in which it grows.]—*Journal de Pr. Heitkunde. August*, 1836.—*Brit. and For. Med. Rev.*

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14. *On St. Vitus's Dance.* By Dr. Stiebel.—Nearly one hundred cases of this disease have come under the notice of Dr. Stiebel; and in not one of these, he says, was wanting the evidence of an irritation of the spinal nerves. Few of the patients, during the course of the disease, have not had pain in some one of the vertebræ, and all, either in consequence of the treatment employed or spontaneously, have recovered. Dr. Steibel believes that the cause of this disease is an irritation of the motor nerves of the spinal marrow or of the medulla oblongata, depending on inflammation or turgescence. Chorea almost always originates during the development of the spine and of the spinal marrow; generally between the seventh and seventeenth years, but occasionally at later periods of life.

The following appears to be the anatomical explanation of the disease:—The spinal marrow, and the origins of its nerves, lie within a bony cavity. If, during their development, there occurs a want of relation between the bones and the nervous system, so that the cavity does not correspond to the increasing marrow, the nervous origins become subject to an irritation as of a foreign body. This disproportion may be the effect of swelling of the spine, without previous change in the nerves, as well as of turgescence of the membranes of the nerves

and the nerves themselves, the spine remaining unaltered; but the first is of most frequent occurrence. The spasms generally cease during sleep, although the irritation continues. The chorea may be limited to one side of the body, or to parts of less extent, according to the situation of the irritation. It is liable also to change its place, to become general after having been but partial, and *vice versa*. It may also alternate with paralysis, which is as little dangerous as the original disease. The change of locality of the disease is not sudden, as in hysteric spasms, but at different periods of the progress of development, each of which is of a certain duration.

Partial chorea of individual motor nerves of the organs of sense constitutes some of the most remarkable forms of the disease; such, for instance, as a constant twitching of the eyelids, distortion of the eyes, abnormal motions of the tongue, and almost uninterrupted sneezing.—A very common form of partial chorea consists in the constant and unavoidable utterance of inarticulate sounds. As all the motor nerves of the organ of voice are not affected, the patient can still speak, but with effort and stammering, the inarticulate sounds being afterwards made more uninterruptedly and with greater violence. This utterance of sounds frequently continues for weeks, only interrupted during sleep; a long-continued aphonia frequently follows, or a shooting pain on one or the other side of the breast, or asthma. Palpitation of the heart accompanies chorea, both partial and general. In examining individuals suffering from either local or general chorea, it will be very rare not to find tenderness and swelling of some vertebral bone; but such an examination must be repeated, as the sensibility is frequently not discoverable until the disease has lasted for some time. In all the cases of chorea which Dr. Stiebel has examined, he has discovered no other cause than that above mentioned, although he does not deny the possibility of the existence of other causes;—e. g. metastasis of rheumatic inflammation, injuries of the spine, &c. There is doubtless an hereditary disposition to chorea, it having been known to affect whole families. It is particularly frequent among the Jews. Dr. S. has not himself had any opportunity of examining the bodies of individuals who have died of chorea; but, in all the cases which he has read, changes in the spinal marrow, its membranes, or in the spine, are mentioned.

The treatment of chorea is simple. Leeches, followed by mercurial inunctions, and then by more active exutories, are indicated when a painful vertebra is found to exist. If no tender point is at first discoverable, leeches and blisters may be applied along the spine. Calomel is generally given internally as a derivative. If the disease is not thus relieved, repeated cold douche-baths on the spine are almost always of advantage. As a general rule, the disease is cured between the fourteenth and twenty-first day by this treatment; but, should not this happen, the disease may be left to nature, which almost always put an end to it in the progress of development. At the same time, however, it is necessary to guard against the occurrence of any spinal deviations, and irritant frictions may be applied to the spine. Preparations of iron have sometimes appeared to be of use. The description of the disease which is here given will suffice to account for the credit which such

numerous remedies have acquired in the cure of chorea; their use having been coincident with the natural cure. It is not intended to deny that there may be a specific remedy, but only that we at present know not what it is.—*Wochenschrift fur die gesammte Heilkunde.* No. I. 1837.

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15. *On the first changes in the Ova of the Mammifera, in consequence of impregnation; and of the mode of Origin of the Chorion.* By Thomas Wharton Jones, Esq. *Read before the Royal Society, April* 27, 1837.—The author having, in a former paper, described the structure of the unimpregnated ovum of mammiferous animals, now proceeds to investigate the changes which the ovum undergoes in consequence of impregnation. In the rabbit, the first perceptible difference is the addition of a thick gelatinous matter surrounding the parts of which the ovum was composed in its original state, and apparently derived from the ovaries. In the progress of development the vitellary membrane gives way, as happens in the ova of the newt, and of many of the oviparous animals. The gelatinous envelope acquired in the ovary, and which is more especially circumscribed and defined after impregnation, constitutes the only covering of the vascular blastoderma, after the giving way of the vitellary membrane, and afterwards forms the chorion, which in rodent animals, at a further stage of development, presents itself under the form of a thin and transparent membrane, very similar to the vitellary membrane of a bird's egg, and situated immediately outside the nonvascular and reflected layer of the umbilical or erythoid vesicle. The author draws similar conclusions with regard to the development of the human ovum.

The second part of the paper relates to the changes taking place in the vitellus, the inferences concerning which are deduced chiefly from observations of the development of the ova of batrachian reptiles. The author concludes that the disappearance of the germinal vesicle is prior to impregnation. In the newt, the vesicle, at first imbedded in the substance of the yelk, gradually approaches the surface, until its situation is immediately underneath the vitellary membrane: its coat, having now become very soft, gives way, allowing the contained fluid to be effused on the surrounding surface of the yelk; and the small depression in which the vesicle was lodged now forms the cicatricula. The effused fluid gives a degree of consistence to the matter composing the surface of the yelk, and thus promotes the formation of the blastoderma. In the frog, the surface of the yelk becomes every day more and more broken up, and the resulting crystalline forms described by Prevost and Dumas, become smaller and smaller, until the surface of the black blastoderma appears under a magnifying glass like shagreen. The blastoderma, consisting of an aggregation of clear globules, different from those of the rest of the yelk, is now fully formed, and has extended itself so as to close in the white spot. The change which takes place in the yelk of the bird's egg appears to be limited to the neighborhood of the cicatricula.—*Proceedings of the Royal Society*, No. 29.

II.—ANALYTICAL AND ORIGINAL.

THE WESTERN JOURNAL.

E Sylvis Nuncius.

CINCINNATI, OHIO, APRIL 1, 1838.

I.—To our Subscribers.

It is our intention, after the publication of this number of the Western Journal, to send it to none of our subscribers, out of the city, who do not pay in advance. In the midst of professional and professorial engagements, we find little time, and no fit disposition of mind, or business capacity, for superintending a periodical pnblication, on the credit system; especially, when it circulates through 15 or 18 states of the Union, and, of course, requires a large number of agents—both travelling and stationary. Such of our friends, therefore, as may desire to continue their patronage, will please to bear in mind, the necessity of remitting the subscription money, three dollars, for the 12th volume, before the first day of July next, when the first number of that volume will be ready for distribution. They, however, who may forget to do it, can make the remittance, after that time, and the number will be forwarded to them. According to our present practice, we shall receive, at par, the bank bills of the solvent banks of the states in which subscribers reside; but hope, that those who live

out of Ohio, Kentucky, Indiana and Illinois, will, when they find it practicable, remit us the notes of some one of the banks of those states. The remittance will be at our risk. In all cases, the postage must be paid.

DAN DRAKE,
LANDON C. RIVES,
Publishing Committee.

ART. II.—THE CINCINNATI COLLEGE.

We are enabled to announce, that our institution continues to prosper. The Academical department, commenced as late as the autumn of 1836, already has 90 pupils; the Law, 18; and the *Medical, one hundred and twenty-five:* the last, an increase of nearly 50 per cent. on the class of the preceding year. An extension of the course has been commenced. That which has just expired, was prolonged a week—that is, throughout the time consumed in the examination of candidates for degrees; and as their number increases, the course will be extended *pari passu*. But four lectures a day are delivered, however, during the examinations, which are carried on in the afternoon and at night.

The Faculty are constantly augmenting their means of instruction. Throughout the vacation, they will maintain instruction in the *Cincinnati Hospital*, and the lecture rooms of the *College*, by prelections and examinations; which commenced on Monday, the 12th ultimo, with an introductory, by Professor Harrison, on the PULSE; and will be continued, daily, for two hours in the morning, till the month of October. Each of the professors will, in turn, appear before the class, on the most interesting or difficult parts of his course.

On the first of October, Professor McDowell will begin, and complete within the month, a preliminary course of *osteology*.

D.

ART. III.—ELEMENTS OF PATHOLOGY.

Dr. Drake is engaged in preparing for the press a first book of Pathology; designed, especially, for students; and to be com-

prised in about 450 octavo pages—price three dollars. The views embraced in it, will be, substantially, those which he has been accustomed to present, in the introductory part of his course, of public lectures, since the year 1825. Their character is, therefore, well known to many of those who are now practitioners in the Valley of the Mississippi; and they can judge, how far his contemplated work will aid them in the difficult task of instructing their students in the rudiments of pathology. He does not anticipate for it, a favorable reception East of the mountains; but is not without hope, that it will attract some share of attention in the West, and South; on which he proposes to rely, for the sale of a limited, *experimental* edition. Unable as yet to find a publisher, he expects to be compelled, either to abandon the undertaking, or publish it himself. The latter alternative will be adopted, should he find that those for whom the work is particularly intended, are desirous of procuring it. To ascertain this, he, respectfully, solicits the patrons of the Western Journal, to collect the names of such of their medical friends as may wish to subscribe for it, and forward them, through the agency of postmasters, or otherwise, free of expense, at as early a period as may be convenient. The book shall be delivered in any town, from the Lakes to the Gulph of Mexico, in which there are three subscribers. It would be desirable, to receive returns on this subject, by the first of June; when the work will be put to press, if its publication should not be given up, from the want of patronage. Should it be prosecuted, he hopes to have it ready for delivery by the first of November; that it may be made the text book of his lectures on General Pathology, to the students of the Cincinnati College, at its next session. D.

Art. IV.—The Medical Convention of Ohio.

Our last number was committed to the press before the meeting of this body, on the first Monday of January, and we could not, therefore, do more than lay its proceedings before our readers, in a supplement. We trust they have not been overlooked, nor even looked over merely, but read with attention. But, wherefore? We answer, because the topics on which that primary assembly

of professional people occupied themseles, are of deep interest to our *caste*, and to society at large. The physicians of Ohio, not present on that interesting occasion, should read them, to learn what they are called upon to contribute towards the great works undertaken by the Convention; and our brethren in other states should study them, that they may be animated to *go and do* likewise. Nay, that they may do still better, but in the same way, that is, by spontaneous meetings, for mutual improvement of head and heart. If similar Conventions were held, in all the states of the Great Valley, its diversities of medical topography, climate, and diseases would soon be written down, and become the common property of the profession. Still further, a spirit of Inquiry would be awakened, in all its members, and a most beneficial impulse to improvement imparted. Finally, a love and practice of harmony would be promoted, where, it must be confessed, even the opposite too much prevails. The two Conventions of the physicians of Ohio, have demonstrated this; and should encourage the Faculty in the other western states, to resort to the same easy, pleasant and successful method, of raising themselves to a higher level, on the scale of industry, inquisitiveness and dignity. It should, however, be borne in mind, that mere meetings will not answer the purpose; and that they are in fact but the means of laying out business, and promoting harmony of vigorous action.

D.

Art. V.—The Medical Examiner.

Such is the title of a new Philadelphia hebdomidal, commenced with the beginning of the present calendar year, and edited by Drs. Biddle nnd Clymer. It is chiefly devoted to reports of cases, and clinical lectures, by the physicians and surgeons of the Pennsylvania and Philadelphia Hospitals; and by professors of the University, and the Philadelphia Medical Institute. One of the last is Dr. Thomas Harris, whose opinions and experience on wounds of the nerves, make the initial article of the first number; and as he is a skillful and respectable surgeon, we shall select it as a specimen of the matters contained in this new and promising weekly.

"It has been erroneously stated by authors, that the division of an important nerve will occasion a loss of sensibility and motion in the part to which it is distributed. Though this may be true when applied to the nerves of the extremities, it is not the case so far as regards the face and head. The important discoveries of Sir Charles Bell have demonstrated that the facial nerve may be divided without producing any other effect than loss of muscular motion; the sensibility of the part being dependent on a branch of the fifth pair. If the latter nerve alone be divided, sensation is destroyed, whilst muscular action remains unimpaired.

This able physiologist has proved in a manner entirely satisfactory, that there exist, in the human system, besides the nerves distributed to organs of vision, hearing and taste, nerves of motion, sensation and respiration; and that these nerves have their origin in distinct tracts of nervous matter, either in the brain or spinal chord. He has further shown that "each filament, or tract of nervous matter has its peculiar endowment independently of the others which are bound up along with it, and that it continues to have the same endowment throughout its whole length. If we select a filament of a nerve, and if its office be to convey sensation, that power shall belong in all its course wherever it can be traced; and wherever, in the whole course of that filament, whether it be in the foot, leg, thigh, spine, or brain, it may be bruised, or pricked, or injured in any way, and sensation, not motion, will result; and the perception arrising from the impression will be referred to that part of the skin where the remote extremity of the filament is distributed."

It is by attending to this view ol the distributive character of nerves that we are able to explain the varied results of the injuries to these chords.

As every part of the body is freely supplied by nerve, it is impossible to inflict a wound, however small, without dividing some filaments near their termination. It is not intended then to consider a division of the termination of nerves, which necessarily takes place in all lesions, but wounds of principal, or at least appreciable chords.

Wounds of nerves are commonly followed by immediate acute pain. If the nerve be only partially divided the pain is much more severe than when its continuity is entirely destroyed. A paralysis thus produced may be either temporary or permanent. If, by proper treatment, the nerve is healed by the first intention, its functions will in time be restored, and the paralysis removed. If, on the contrary, motion is permitted, which will interrupt the process of adhesion; inflammation, suppuration and ulceration will supervene, and a restorative process will not take place.

When the nerves of the senses are wounded they cannot be restored. Other nerves, which are simply divided, are capable of being re-united, and afterwards to perform their functions as well as before the wound was inflicted.

The experiments of Haighton, published in the British philosophical transactions of 1795, establish this point beyond controversy. These experiments have been repeated by Swan, of London, and Descot, of

Paris, and with the same results. The phenomena connected with the re-union of a severed nerve, is the same cœteris parabus as those attending the restorative process in other tissues. The experiments to which I have referred, prove that when a nerve is divided, its extremities retract about half an inch; after twelve hours they elongate so as to diminish the separation more than one half. A deposition of a pulp like substance takes place, which fills up the interspace between the ends of the divided nerve. This, in time, by the recuperative powers of nature, assumes the appearance, and performs the office of the original structure.

When two or more inches of a nerve are destroyed, a deposit of new matter will be performed but it will not be nervous tissue, nor will restoration of function in such instances follow.

In order that these injuries may be better understood, I will briefly notice several of them in succession.

Partial Division of Nerves.

When a nerve has been thus injured, the patient complains of very acute pain, especially along the course of the injured chord, and in the distant part to which it is distributed. When, for example, the sub-cutaneous nerve is wounded in the fold of the arm, in the operation of blood letting, severe pain is felt in the skin of the fore-arm and hand.

The painful effects of these wounds are sometimes so severe as to excite great constitutional irritation, and not unfrequently, tetanus.—Frequently the pain is acute at the moment the wound is inflicted, but soon abates. Unless the part be kept perfectly at rest, the pain will return in three or four days, as violently as in the first instance. In other cases the suffering will continue with unabated severity, for weeks and months.

The treatment of incised wounds of nerves consists in promoting adhesion. With this view, rest should be strictly enjoined. In case of an injury of the sub-cutaneous nerve, at the fold of the arm, an angular splint should be applied to the arm, and secured there by a proper bandage. By such treatment the severe symptoms will not return after they have abated; but to secure this advantage, the splint should be immediately applied after the injury has been inflicted, and before the nerve becomes irritated by motion. When the nerve, from improper management, does become inflamed, the case always proves tedious, and accompanied with great suffering. To relieve it from this state, leeches, rest, anodyne embrocations, and time, will in most instances, accomplish a cure. When, however, there is no abatement of the symptoms, accompanied sometimes by convulsions, relief may be derived from completely dividing the nerve. This operation has been repeatedly performed with the effect of promptly affording relief to the patient. In two instances of partial division of the sub-cutaneous nerve, followed by very alarming symptoms, the patients were quickly relieved by my dividing the integuments and nerve by a free transverse incision. This operation has been repeatedly performed by others, and generally with the same success.

I saw a lady who had been bled in the foot, experience agonizing

pain, followed by convulsive motions, who was promptly relieved by dividing the saphena nerve. Sabatier records a similar case, where he proposed this operation, but the patient not consenting, she was obliged to endure intense suffering for a period of six years.

Baron Larrey relates several cases which forcibly illustrates the importance of this practice. He states that a soldier was struck by a ball, which crossed his right arm, and wounded the biceps and coraco-brachialis muscles, and the radial and internal cutaneous nerve. The next day his local pain were very acute, convulsive motions of the hand and fore-arm, heat in the whole system, restless, and in continual agitation. The rapid progress of the symptoms determined Larrey to cut down to the bottom of the wound, where he found several nervous febrils, which he divided. This operation was very painful; but two hours afterwards the patient was very much relieved, and in two days all the symptoms disappeared.

Military Surgeons of all countries relate similar cases, which were treated successfully by the same means.

Punctured wounds of the fingers frequently cause very alarming symptoms, which are doubtless owing to a partial division of one of the nervous febrils which are so numerously distributed to these parts. These symptoms cannot result from a common wound, as an enlargement of it by the knife speedily removes them. The beneficial effects of such an operation can be only explained by supposing that it entirely divides the termination of a nerve which was partially wounded.

It is stated, by Wardrop, that a person pricked his forefinger by a gooseberry thorn, which caused the first phalanx to be so acutely painful that he could not endure it to be touched. After suffering severely for twelve months, the finger was amputated, by which all the unpleasant symptoms were removed.

Wounds of nerves, produced by bullets, never take on the restorative process. The nerve being contused, it sloughs like other tissues, and thus looses one or more inches of its continuity. The experiments of Swan, Descot, and others, have proved that when so much of the chord is destroyed re-union never takes place.

The following case, while it proves the truth of these remarks, affords a beautiful illustration of the views of Sir Charles Bell, in relation to the functions of the fascial nerve.

In the action between the frigates Chesapeake and Shannon, Midshipman A—— received a pistol ball, which entered the anterior part of the ear, passed backward, and lodged in the base of the martoid process.

The muscles of the side of the face corresponding with the injury, lost entirely their motive powers, while the sensibility of the part became greatly exalted. The pain, indeed, continued so excessively violent that he was obliged to take, constantly, large doses of opium. His general health became impaired, and in six or eight years after the receipt of the injury he sunk under his accumulated sufferings.

After death I examined his wound, and found the ball lodged at the base of the mastoid process, and in contact with a branch of the fifth pair. In its course, it divided the facial nerve as it emerged from the

stylo-mastoid foramen. The division of this nerve explains the cause of the paralysis, and the irritation of the nerve of sensation produced the violent pain which he had so long endured.

Pressure of a nerve will produce paralysis of the muscles to which it is distributed; it will also, sometimes, give rise to agonizing pain, and even tetanus. Haighton put a ligature around a nerve, and permitted it to remain until inflammation was established, ulceration ensued, and although re-union took place, the function of the nerve, in this instance, was not re-established.

I have known Dessault's apparatus for fractured clavicle, produce paralysis of the arm, by long continued pressure on the axillary plexus of nerves. This is by no means a solitary instance of the bad effects of this mode of treating such accidents."

The Medical Examinrr has taken the field with our old and persevering friend, the Boston Medical and Surgical Journal. Success to them both. D.

Art. VII.—Obituary Notices.

It becomes our duty to announce the recent death of several distinguished members of the profession, both foreign and American.

Dr. McIntosh.—This eminent Scotch physician, lecturer and writer, died in October last, at his residence in Edinburgh. We copy from the London Medical Gazette, for November, the following notice of this event:

"We regret to have to announce the decease of Dr. Mackintosh, of Edinburgh, which took place last week, in consequence of an attack of typhus fever. Dr. Mackintosh was the author of an elementary work on physic, and of various papers in the medical journals. He devoted a great portion of time and labour to the investigation of cholera, and has made some important contributions to its morbid anatomy, the results of which were communicated to the late scientific meeting at Liverpool. He was a zealous and active man, perhaps a little too *energetic* as a controversialist. He had a considerable class, and his death will be severely felt in the school with which he was connected, leaving, as we believe it does, a blank both in medicine and midwifery."

Dr. M. was chiefly known in the United States, by his systematic work on the "Principles of Pathology and Practice of Physic," edited by Dr. Morton, of Philadelphia, and used as a text book by the students of the Cincinnati College.

M. Alibert.—We avail ourselves of the following notice, found under the editorial head of the Philadelphia Medical Examiner; which we presume sets forth correctly, the leading facts of the

life and character of this distinguisned French physician. He died in Paris, in November, at the age of 70.

"He was born in the village of Ville-franche, in what was formerly Haute Guyenne, in France. He was early destined for the Church, but the troubles of the revolution breaking out about that time, directed his attention in another channel. He removed to Paris, and became a pupil in the *Normal* school, an institution which, during its brief existence, gave considerable impulse to national education. It was not until this school was closed, that Alibert devoted his exclusive attention to medicine. The peculiar qualities of his mind, and the singular benevolence of his disposition, peculiarly adapted him for the exercise of the active duties of his profession. Many of his productions, and particularly those by which he is best known, were begun and completed during the first few years of his practice. We may mention, among others, his Treatise on Malignant Fever, which has been long regarded as a standard work; his Essay on Therapeutics, based on the physiology of Bichat; a system of nosology, which first displayed that peculiar talent for classification, afterwards so conspicuous in his elaborate production on the Diseases of the Skin; to these we may add numerous memoirs, eulogies, and other papers prepared for the Medical Society of Emulation, of which he was one of the most distinguished and active members. The first sketch of his great work on Cutaneous Affections appeared in 1806. It was not until 1832, that it was finally completed. The skill, fidelity and effect with which the illustrations of this noble work are executed are well known. This was done by Alibert at his own risk, and at an expense, it is said, of 300,000 francs. Willan had already acquired a reputation in this department, and as works of art, doubtless his plates possess much merit; but the superiority of vivid and natural delineation appears by general consent to be allotted to Alibert. The descriptions of the latter are also rendered more graphic and highly interesting by the vivacity of his style, and the richness of his imagery. The prominent fault of his nomenclature is excess of refinement, and of ingenuity, which, unfortunately, is better calculated to fatigue than to assist the memory of the student.

"His Treatise on the Passions, a work of a more purely literary character, was written at a later period. It is but justice to Alibert to confess, that in treating of the Passions, he has adopted a higher moral tone than is characteristic of the French School in general, and that his views appear to be much influenced by his early religious impressions.

"For the last twenty years of his life, Alibert occupied the post of physician-in-chief to the Hospital of St. Louis. This was the great scene of his labors and of his glory. Here he established his clinic on Cutaneous Diseases, and here in the open air, like one of the ancient academic sages, drawing his pupils around him, he exhibited and explained to them the cases, the number of which sufficed to illustrate the most exact classification, and by the power of his eloquence recreated this, his favorite branch of scientific investigation.

"In his private character, Alibert was distinguished for benevolence and kindness. His especial delight was giving aid and countenance to the junior members of the profession, and he regarded his pupils as his children. In his professional relations he was liberal and disinterested; all who sought his aid, whether rich or poor, were received with courtesy and kindness; and the importance of the malady, not the rank of his patient, was the rule and measure of the attention which he paid the case. Some of his more direct acts of benevolence were managed with extreme delicacy. If he discovered any artist, or literary man, who was reduced in his circumstances, he sent by some unknown hand, and under a fictitious name, considerable sums of money. Where the transaction was open, and the pride of the recipient made him insist on giving his note, it was either destroyed or cancelled. More than one hundred obligations thus mutilated were found among his papers.

"*Eloges* were delivered over his grave by MM. Pariset and Cruveilhier."

Dr. Ives.—From the journal just quoted, we extract the following annunciation of the death of this respectable physician:

"We announce with regret the death of Dr. Ansell W. Ives, of New York, after a protracted illness of intense suffering. He expired on Tuesday evening, the 6th of February, of Neuralgia, under which distressing affection he had been laboring for the past year. For the last nine months he endured the most excruciating and unspeakable agony, under which he eventually succumbed.

Dr. Ives was favorably known to the medical public as the Editor of the American edition of Paris' Pharmacologia, to which work he made a number of valuable additions."

Dr. Eberle.—This gentleman, after a protracted illness, expired, on the 2d of February last, at his new residence in Lexington, having, a few months before, left his professorship in the Medical College of Ohio, for the corresponding chair in Transylvania University. As a lecturer Prof. E. was respectable, but his fame rests more on his writings than his prelectiones. These are too well known and extensively disseminated throughout the United States, to require an enumeration. Their characteristics are good sense, fulness of detail, and the absence of *ultraism*. Dr. Eberle's habits were those of laborious bibliothecal research, and patient acquisition. The German was his mother tongue, and he cultivated the study of the medical literature of that Empire, more, perhaps, than any other American physician. His Materia Medica and Practice of Physic are works of decided and general utility. His age, at the time of his death, was 49. Of the nature of his disease, we are not correctly informed, but have understood it was apoplexy.

D.

Art. VIII.—Compensation of Physicians.

We return our thanks to those who have favored us, with statements of the rates of charging by themselves and the brethren in their immediate neighborhood; but the number of *data* is not yet great enough for generalization; we must, therefore, respectfully, request our patrons generally, at as early a day as may be convenient, to favor us with the information, asked for in our last number. It is our intention to make the whole the subject of an article in our July number. D.

Arrt. IX.—Rotation in Office.

The *Boston Medical and Surgical Journal*, gives the following amusing account of the appointment of a physician in chief, to her youthful majesty Queen Victoria. Dr. Clark, the favorite, has commended himself to the profession, by his elaborate work on Pulmonary Consumption. His promotion will give general satisfastion to us republicans of America. It appears that he has been made a Baronet, by the young Queen. D.

Royal Physicians.—The Queen of England ascended the throne in June, and one of her first measures was to organize the royal household. Lists of persons in each department were prepared, and amongst others, the medical list was submitted to her, headed with *Sir Henry Halford*, *Sir Matthew Tierney*, and some other pillars of that clique of medical exclusives, called the College of Physicians. "*Sir J. Clark* is my physcian," quietly remarked the queen. "Certainly," said a noble official, "his name shall be added to the catalogue." It was then written at the bottom of the list, and the whole again read to her. "There is a mistake," said the queen, "*my physician must come first*, and afterwards you may put on what names you please." So it was done, and Sir J. Clark is the royal physician. But when the official announcement of the medical honor reached the college, they were in a dilemma—for it appeared that "*my physician*" did not belong to that ilk. Mortified and provoked as they were, beyond endurance, to be thwarted in the commencement of a new reign, in monopolizing all the honor and all the fees, as they and their knighted predecessors had done for ages, a show of acquiescence was made, by sending Sir J. Clark a diploma, forthwith. But the medical baronet haughtily refused their parchment honors. It was too late in the day. He had risen to distinction by his own personal industry and excellent character, unaided, uncared for—and, if asked, would probably have said, unknown to the illustrious members of the Royal College. Sir Henry Halford, the president, who has been fed from the royal crib of three kings

(George III. George IV. and William IV.), with gilded oats, is now the *second* physician of the queen.

Art. X.—Varicose Veins and Ulcere oe the Legs.

Varicose veins of the legs are so frequent, that almost every physician is called upon to treat them. When complicated with ulcers their cure is important; and when no ulcers are present, the *alarm* they give to some patients, requires that we should be thoroughly acquainted with the results of the experience of those who have had ample opportunities. Among these, scarcely any European surgeon, would be of more authority with our readers, than Mr. Brodie of London. We shall therefore transfer to our pages the curative part of one of his lectures, in St. George's Hospital, as reported in the Medical Gazette for November last.

D.

"In those cases in which, from long neglect of varicose veins, the skin of the leg becomes red and irritable, you will be able to render the patient no service so long as he is going about, standing and walking as usual. The first thing to be done is, to confine him to his bed, or, at all events, to a sofa; but the safest method is to confine him to his bed, and the horizontal posture, so that the blood may not have to rise up in the leg against its own gravity. In many cases, nothing more is necessary than this; but in some instances, this will afford but very slow relief, and in all cases you may hasten the patient's recovery by adopting other method's in addition. I have frequently, in these cases, bled the patient in the vena saphena major, in the lower part of the thigh, near the inner condyle; and it is astonishing what relief that gives. It is not worth while to adopt this practice in all cases, but where you find the patient suffering more than usual from the inflamed state of the skin, you may very properly have recourse to it.

Bleeding in the vena saphena major is performed very easily in persons who are not very fat: place a bandage round the lower part of the thigh, let the patient put his leg into a pail of warm water, and what with the warm water below and the bandage above, the vena saphena swells; you then open it with a lancet, and take away any quantity of blood you please. But, in a very fat person, bleeding from the vena saphena is not very easy to be accomplished, and as a substitute for it you may apply leeches to the inside of the thigh, or you may apply them in this situation in other cases, where you do not think that actual bleeding in the vena saphena is required. And here I must call to your recollection what I said respecting the application of leeches, under these circumstances, in my last lecture. Never apply leeches to the inflamed part, but always at some distance above it. If the whole skin of the leg be inflamed, then apply them on the inside of the thigh;

if the leg be inflamed in the lower part and not in the upper, then apply them in the leg, but above the inflammation. Besides the application of leeches, you may, in the first instance, apply a rag, wetted with cold spirituous or saturnine lotion. When the inflammation of the skin has subsided, you may begin the use of bandages in the way which I described in the last lecture.

"In some cases, as I formerly told you, the skin is not only inflamed, but more or less excoriated, the cuticle being abraded to a greater or less extent, while the surface of the cutis secretes an ichorous fluid. Here, also, you may take away blood from the vena saphena major, or or from the inside of the thigh by leeches, and the patient will also derive benefit in these cases from the application of a saturnine lotion, though, for the most part, some mild cerate answers the purpose better. The zinc ointment or calamine cerate answers very well; but we use, in the hospital, a preparation known with us by the name of compound chalk ointment, which is much preferable. It is, if I am not mistaken, now introduced into the Pharmacopœia, under the name of ung. plumbi compositum. It is an excellent application in these and other cases, where the surface of the cutis is deprived of the cuticle. This ointment was invented by Dr. Kirkland, a celebrated practitioner, many years ago, in Leicestershire, and I believe it was commonly known under the name of Kirkland's neutral cerate. It is composed of diachylon plaster, olive oil, chalk, and distilled vinegar. How it should have ever entered into any man's head to make such a composition as this, I do not know; but the composition having been invented, I must say, it is a very useful one. The ointment should be spread on a linen rag, and applied in stripes round the leg, each stripe over-lapping the one below. In some cases, in addition to the use of chalk ointment, you will find advantage from washing the surface with a weak solution of nitrate of silver, in the proportion of two or three grains to an ounce of rose water. A strong solution would here be improper, but a weak solution is very useful.

I told you that in some cases there was œdema, a swelling of the leg and foot, in consequence of the inflammation of the cellular membrane, causing it to be infiltrated with coagulated lymph and serum. The treatment that is required under these circumstances is very nearly the same as that which is necessary where there is the inflammation of which I have just spoken. The patient should be kept in the horizontal posture; blood may be taken either from the vena saphena major, or by leeches from the thigh, and generally you will find the latter quite sufficient. You may apply a cold lotion in the first instance, but very soon, in these cases, you should begin to apply a bandage, such as will give a uniform support to the leg, from the toes to the knee.

In cases of varicose ulcers of the leg, if you find that the patient has neglected himself, that the ulcer is in a state of inflammation, foul and painful, as it often is, and the surrounding skin being in a state of inflammation also, you must keep the patient in bed, and treat him as if the leg were inflamed without the existence of the ulcer. But as soon as the inflammation of the ulcer and the surrounding parts has been re-

lieved, you may begin the application of pressure. The pressure of a common roller will do a great deal of good, and formerly nothing else was recommended. But we find, now, that in cases of varicose ulcer, as in cases of indolent ulcer of the leg, you may very much assist the common roller by the addition of other means. One very good way of making pressure on a varicose ulcer, is to interpose between it and the bandage a piece of sheet lead, such as is used in anatomical museums for covering preparations. The lead should be made quite smooth, and larger than the ulcer, extending some way beyond its margin. This makes a very uniform pressure, and really does very well. But for the most part, we are in the habit of using pressure by means of plaster applied in a circular manner round the limb. It is common to employ stripes of linen, spread with soap or adhesive plaster; but I own that I very much prefer diachylon plaster; for both soap plaster and adhesive plaster will frequently irritate the skin, and bring on inflammation and pustules, but diachylon plaster scarcely ever produces this effect.

You have an opportunity of seeing stripes of diachylon plaster applied every day, and over and over again every day, in the wards of the hospital; and, therefore, it might seem almost superfluous for me to make any observations on the mode of applying them. But I find that new dressers very seldom apply them in the manner that I believe to be proper, and therefore I thall offer to you some observations on that subject.

In the first place, the stripes should be applied round the limb, the two ends crossing each other in front, the application beginning below every part has a double piece of plaster over it. Each of the stripes ought to overlap the one below by one-half of its diameter. Thus every part has a double piece of plaster over it, and you secure more equal pressure than you could otherwise obtain. It is of great consequence that the plaster should be tight enough to give comfortable support to the limb, and at the same time not so tight as to make the limb swell below; for if it does produce this effect, it is very likely that it will bring on a sloughing of the sore. The plasters ought to make uniform pressure—that is, the pressure should be equal throughout; or if there be any difference in the degree of pressure, it ought to be greater below than above. If you do not attend to this point, the plaster above operates as a tight garter, and makes the parts below swell.

When you apply the plaster, it should always be with the heel raised, the patient lying flat on his back, so that the vessels of the leg may be emptied of their blood. The same plan should be adopted when the plaster is taken off. If the leg be hanging down at the time the plaster is applied, the veins are full of blood, and the plaster becomes too loose as soon as the patient puts his leg up.

The plaster, if there be much discharge, should be changed daily; but as the discharge becomes less in quantity, it may be changed every other day, or once in three days, and in some cases it may be left on even longer than that.

Frequently, in cases of varicose ulcer, you find the veins on each side of the leg just above the heel, and behind the ankles, formed into a varicose cluster. A bandage applied in the common manner does

not sufficiently support these veins. The ulcer may be above, and you may cover it with a bandage; but if there be such veins as I have mentioned, below, you must not, for obvious reasons, leave them uncovered.

In order to support these viens, some stripes of plaster should be applied round the lower part of the heel, extending upwards, in a longitudinal direction, on each side of the leg. Let these be held firmly on while you apply the circular stripes over them, in order to keep them in their place. In this case also, in the application of the bandage, you ought to pursue the same course: a longitudinal bandage, extending under the heel and up each side of the leg, should be applied first, and this covered by a circular bandage afterwards. These may appear matters of little importance, but a great deal of your success in practice will depend on attention to such minutiæ. It is not enough to understand the case, to make a good diagnosis, and to know what remedies are to be employed; you should also take pains to apply these remedies in the best possible manner, otherwise they may fail in producing their effect. In some cases of varicose ulcer, you will promote the healing of the ulcer by touching it, every other day, with a strong solution of nitrate of silver in water, beginning with five or six grains to an ounce, and increasing the strength gradually. But I do not advise you, as a general rule, to put any application in the way of dressing under the plaster. I find a new dresser frequently interposing a piece of lint, with or without simple ointment, between the plaster and the sore. It is a very injurious practice; it keeps the sore slopped with its own discharge; it prevents the plaster from making that uniform and regular pressure which is required. When the sore has been healed, the patient should continue to wear the plaster for *some time* afterwards, otherwise the cicatrix will give way, and for the same reason he should *ever* afterwards wear the bandage.

Other methods of treating patients laboring under varicose veins have been proposed by surgeons in former times, and also of late years. They have proposed to relieve or cure the disease by performing operations upon the affected veins. I need not carry you back to the propositions of Celsus on this subject, nor even to those of Heister. I shall only speak to you of methods that have been suggested within the last 30 or 40 years.

Sir Everard Home recommended the application of a ligature, where the veins of the leg were varicose, to the vena saphena major. He performed this operation in a great number of cases, and in a few cases he applied it to the vena saphena minor. When I was a student, nothing was more common than to see a patient with varicose veins standing on a table, and leaning over the back of a chair, to have this operation performed. The skin was divided, a silver needle, armed with a ligature, was passed under the vein, and the vein was tied. In many instances, at first, no ill consequences ensued; but by and by a private patient of Sir Everard Home became affected with venous inflammation, and died. The same thing then occurred in another patient. When I was house-surgeon here, there were two women on whom the operation was performed, in each of whom venous inflammation, attended

by typhoid symptoms, supervened. Fortunately they did not die, but they had a very narrow escape. The operation was performed by other surgeons, and in their hands also it was found that every now and then venous inflammation was brought on, which ended fatally. The operation was then generally abandoned. Mr. Abernethy remarked,—"I dare say it is only the ligature that brings on the inflammation. You divide veins when you amputate, and they do not become inflamed; why should you not merely cut across the vena saphena, and put on pressure?" He was mistaken in his view of the matter, which was not indeed much understood by surgeons at that time. We now know that the veins, after amputation, not unfrequently inflame, and that this is one of the most common causes of death after amputation. When I was first assistant-surgeon, there was a man with very bad varicosæ veins: such a case as those in which the vena saphena would formerly have been tied. I did not tie the vein, however, but I followed Mr. Abernethy's advice, cutting it across, and applying a compress and bandage. The patient had venous inflammation, attended with very severe typhoid symptoms, and died within four days after the operation. Since then, as you may suppose, no operation has been performed on the vena saphena, either by ligature or in any other way. There are no circumstances here to justify the performance of a dangerous operation. You may perform dangerous operations to get rid of a disease still more dangerous, but you have no right to perform an operation attended with such a degree of danger as can be appreciated, in order to get rid of a disease which is not dangerous; and no one can say that varicose veins belong to the class of dangerous diseases. But still there is another reason against having recourse to this operation. I do not believe, from anything that I have formerly seen, that the operation permanently benefited the patients. It is true that they appeared to go away a great deal better, but I now and then saw one of them a year or two afterwards, and I always found them as bad as ever. Indeed I am by no means certain that the benefit which the patient appeared to derive, in the first instance, was the result of the operation: and I am more inclined to believe that it arose from his having been necessarily kept for some time in bed in the horrizontal posture. Patients always appear to get better under these circumstances. But I may observe further, that there appears to be no reason why in ordinary cases of varicose veins the obliteration of the saphena major should do any good, and that there are better grounds for believing that it will do harm. If you stop the vena saphena major you prevent the due return of blood to the heart, so that it is likely that the veins will become worse than before. Have I not shewn to you that pressure on large venous trunks causes an obstruction of the blood in passing through them? that this is one common cause of varicose veins? In *very bad cases*, however, of this disease, I can understand why the patient should derive benefit from trying the vena saphena major; and in order that you should understand what I now state, I must explain to you the different cendition of the parts where the veins are very much dilated, and where the disease has only proceeded to a limited extent.

If the veins are but little dilated, or dilated only in particular places,

the valves can still continue to answer the purpose for which they are designed. If the vena saphena major be not at all dilated, while the smaller veins of the leg are dilated, the valves of the vena saphena major act perfectly, and take off the weight of the column of blood pressing on the veins below; but if the vena saphena major be itself considerably dilated, its valves then are of no use. I have sometimes seen a very curious result from this. I had a patient, for example, in whom there was an unusually large cluster of varicose veins on the inside of the leg, while the vena saphena major was of enormous diameter, so that the valves could evidently be of no use. If I put on a bandage, and squeezed the blood out of the veins below, and then put my thumb on the vena saphena major above, so as to stop the circulation through it, I found, on taking off the bandage, the patient being in the erect posture, that the cluster of veins below filled very slowly from the capillary vessels. But if the patient, being in the erect posture, I took off my thumb from the vena saphena major, the valves being of no use, the blood seemed to flow down from the trunk of the vena saphena major, contrary to the circulation, and filled the varicose cluster below almost instantaneously. I can understand that a ligature upon the vena saphena major, under these circumstances, would in a great degree lessen the inconvenience arising from the distension of varicose veins below. It would answer the same purpose as the pressure of my thumb; but still it is not to be supposed, that the good thus obtained would counterbalance the chance of mischief resulting from the operation.

I was occupied, many years ago, in making experiments on the obliteration, not of the vena saphena, but of the veins themselves. I applied caustic so as to penetrate through the skin to the veins, and in this way I cured many varicose ulcers. Mr. Mayo has, as I have been informed, employed the same practice lately, with this difference: he has not gone far enough to make a slough of the vein, but brought on some inflammation, which has caused the vein to become obliterated. I tried this method in many cases, but I cannot say that I found it answer sufficiently to make it worth the patient's while to submit to it. The application of the caustic was very painful, the slough took a long time to separate, the sore took a considerable time to heal, and though one cluster was cured, other clusters appeared. Altogether it was a very tedious process, and my own experience does not lead me to recommend it.

Then I contrived another method. Though there is danger in cutting across large veins, or in tying them, there does not appear to be any danger which can be appreciated from the ligature of smaller veins. Piles are nothing originally but varicose veins; now I have performed operations for internal piles, I cannot tell you how often, for there is nothing in the practice of surgery more common; but I have never yet seen a patient have venous inflammation arising in consequence.

We frequently cut across small veins in operations, and they are divided by accident; but we never find venous inflammation supervening. Although there may be danger from operations on the vena saphena major, we have no right to expect danger from operations on the small-

er veins. I contrived, then, the following method. Supposing that I intend to cure a particular cluster of veins, I use a sharp pointed bistoury, which cuts, not like a common bistoury, on the concave, but on the convex edge. I puncture the skin with this instrument on one side of the varicose cluster; I carry the blade under the skin, between it and the varicose veins, over to the other side of the cluster; and having carefully performed this part of the operation, the skin over it remaining entire, except where the first puncture was made, I turn the edge of the instrument backwards, and drawing it out, cut across the cluster. A good deal of hæmorrhage follows, but the pressure of a compress commands it, and a bandage is applied afterwards. The wound, in most instances, heals by the first intention. The varicose veins are obliterated, and usually in a few days the patient suffers no inconvenience from the operation. However, in some cases, the wound suppurates, instead of healing by the first intention, which protracts the cure. Then, in other cases, a remarkable occurrence took place. Although I was satisfied that the cluster was divided, the disease was not cured. It seemed as if the veins healed without being closed. As the ductus choledochus, or the intestinal canal, will heal after the application of a ligature, without the continuity of the canal being destroyed, so it appeared that the continuity of the canal of the veins was not in every instance obliterated.

This was a very easy and very safe method of curing varicose veins, yet we hardly ever perform this operation now; for, with my present stock of experience, it really seems to me that there are very few cases in which it is worth the patient's while to submit to it. I have always observed that if I cured one cluster, two smaller ones have appeared, one on each side, so that ultimately I left the patient no better than I found him.

The operation, however, is proper where there is a varicose cluster much distended, and liable to burst and bleed. Here you may actually save the patient's life by having recourse to it; and you may do so without considering whether fresh clusters are or are not likely to form afterwards. Sometimes, when there is a varicose cluster above and below on which a varicose ulcer depends, you get the ulcer to heal sooner than it otherwise would by dividing the cluster. I do not recommend this generally in cases of varicose ulcer, but only every now and then where there is unusual difficulty in getting it to heal. I generally observe that it heals sooner if you divide the cluster below than the cluster above. Then there are some cases where a varicose cluster is productive of an unusual quantity of pain, apparently in consequence of there being some nervous filament lying over it which is kept on the stretch. There you may relieve the patient from the pain of the particular cluster by the division of it. But these occasions are of rare occurrence; and under other circumstances I really do not think that it is worth the while of any patient to submit to the operation.

I ought not to take leave of the subject which is before us, without referring to a very ingenius method of obliterating varicose veins, which has been lately adopted by M. Velpeau, of Paris. He introduces a pin or needle thro' the skin, which is passed underneath the vein,

and at right angles to it. A twisted suture is then applied round the two ends of the pin, so as to compress the vein sufficiently to produce its obliteration. I cannot, from my own experience of this practice, say any thing of its advantages or disadvantages; but must acknowledge that it seems not improbable that it may be preferable to the other methods of which I have given you a description. Still, the observations which I have made as to these other methods, apply equally to this. It may be useful in certain cases, and under peculiar circumstances; but I can see no reason to believe that you would be justified in having recourse to it on ordinary occasions."

ART. XI.—GEOLOGICAL SURVEYS OF OHIO, INDIANA AND MICHIGAN.

Ohio.—We have before us the "First Annual Report on the Geological Survey of the State of Ohio." It is made by the principal Geologist Mr. W. W. Mather, and embraces contributions from four of his assistants, Dr. Hildreth, Mr. Briggs, Dr. Kirtland, and Mr. Whittlesey. The whole make a pamphlet of 134 pages. This very important work, will henceforth advance rapidly. The chief Geologist is not only well qualified, but entirely devoted, in feeling and purpose to his duties. A large part of the report, is from the pen of Dr. Hildreth, who, we are sorry to learn, has resigned. It relates chiefly to the Muskingum valley. Mr. Briggs' contribution, embraces the Hocking and lower Scioto valleys, in the examination of which, he was assisted by Mr. J. W. Foster. Dr. Kirtland is charged with the department of organized nature, on which he has made a brief preliminary report. Mr. Whittlesey is engaged in the topographical survey. As yet he has made but few admeasurements, to determine the great problem of the general elevation of the surface of the state, above Lake Erie and the Atlantic Ocean; but he has collated the facts previously ascertained, and formed from them the following table, which we extract with a part of the remarks that precede it, as being of interest, not merely to our readers in Ohio, but in Kentucky, Indiana, and Illinois; states which bear to the Lakes a relation not unlike that of Ohio.

"The surface of Lake Erie, 564 feet above tide-water, at Albany, is made the plane of reference. This comparison of heights exhibits almost the entire surface of our territory above the level of the Lake. The Ohio river, at Cincinnati, in its lowest stage, is but 133 feet below (that is, nearer the Earth's centre, than) the Lake's surface. Ascen-

ding the river to Portsmouth, it rises 37 feet, being 96 beneath the Lake; to Marietta 94 feet, within two feet of the line or plane of reference; and at Beaver, Pennsylvania, its elevation above the waters of Erie, is 127 feet, according to the best information. The highest annual floods lessen the difference between the river below Marietta and the Lake, about 50 feet, and increase the same as we ascend. But the increase of difference is not equal to the decrease, as each tributary, when all discharge surplus water at the same time, of course gives additional height to its waters; yet the extraordinary inundation of February, 1832. which H. G. Eastin, Esq. an Engineer in the employ of the State of Kentucky, puts at 61 feet in the vicinity of the mouth of Big Sandy, was only one foot higher at Cincinnati. From Beaver to Cincinnati, by river, 420 miles, the descent is 260 feet, or 619-1000ths of a foot per mile. But the fall is not uniform, being greatest in the upper part of the river, thus: From Beaver to Marietta, it is 0,86 of a foot per mile; Marietta to Portsmouth, 0,563; Portsmouth to Cincinnati, 0,359. The upper level of the Canal, in the northern part of Cincinnati, is only 21 feet lower than the lake; the intersection of Main and Cross streets, Aberdeen (opposite Maysville,) 28; and the sill of the Old Court-House, at Portsmouth, in Market street, (about 100 feet north of Front,) is but 35 feet below the line of reference, made use of on the sheet of projections. The elevations of the bluffs and knobs bordering on the Ohio river, have not been taken this season, for reasons above given. They have an apparant height of 300 and 400 feet above our general standard (the Lake,) leaving only a small portion of the immediate valleys of the Ohio, the Scioto and the Miamies, beneath it. The sill of the Court-House , at Piketon, is above, a few inches less than 8 feet. The "Little Mountain," a singular elevation in Mentor, Geauga county, about 5 miles from Lake Erie, and the highest point in the northeastern part of the State, rises but 5 feet above Somerset, in Perry county, and 40 feet higher than the doorsill of Hillsborough Court-House, in Highland county, in the southeastern section of Ohio. This striking feature of uniformity in the general surface of the State, cannot be more plainly exhibited, than by a tabular statement, drawn from the materials hitherto collected, showing in contrast, some points, remote from each other, but of corresponding elevation above Lake Erie—

Hillsborough, Highland Co.,	560.	Highland, west of Akron,	(same,)
West Union, Adams Co.	410.	Huron Summit Swamp,	414.
Yellow Springs, Green Co. (Cokely's door sill,)	398.	Portage Summit,	395.
Mahoning Summit Swamp (Champion, Trumbull County,)	342.	Kilbuck Summit Swamp, (Harrisville, Medina County,)	337.
		Olentangy, at Delaware,	278.
St. Mary's Mercer County, (Canal Level,)	278	Kilbuck, at mouth of Apple creek, near Wooster,	278.
Scioto, at mouth of Mill Creek,	271.	Newark, Old Court-House door sill,	272.

Columbus, west door-sill, Capitol,	197,5.	Walhonding, at mouth Kilbuck,	197.
Sinking Spring, Adams County,	150.	Putnam, Muskingum County,	150.
Scioto, at Columbus Feeder,	128,75.	Muskingum, at Dresden,	127.61
		Ohio, at Beaver, Pa.,	127.
Fort Defiance, (Canal level)	98	Cleveland Court-House,	95.

It will be seen that the places compared are similarly situated, i. e. summits stand in contrast with summits, and streams and places upon them are collated with each other."

Indiana.—Dr. David Dale Owen is the Geologist of this young and rising state. We have before us his "Report of a Geological Reconnoisance," made in the year 1837, pp 34, which indicates, that Indiana is resolved not to lag behind her elder sister, in this important enterprize; and that she has confided it to gentlemen of science. We have room but for a single extract:

"None of the precious metals will ever be found in Indiana, unless in minute portions in boulders, or in small quantities in combination with other metals; because the primitive and grauwacke formations, in which alone productive mines of gold and silver ore occur, do not exist in Indiana. It is true, that in some rare instances, silver is found as a sulphuret and as red silver ore, in such formations as exist in the western country; but I have seen no symptoms of any such in our State. The same may be said of bismuth, tin ore, and native arsenic. The only metals which we need look for, are iron, lead, antimony, maganese, zinc, cobalt, and possibly some varieties of copper and arsenic ores.

It is not likely that anthracite coal will ever be found in Indiana; because that mineral is usually found in the primitive and grauwacke formations.

Several detached pieces of native copper have been found in the State, one weighing five pounds; but, from the nature of the ore, its occurring in washed gravels, and only in isolated pieces, I have reason to believe that they do not originate in the State. I may add that the kupferschiefer of the German miners, yields, at the mines of Mansfield, in Thuringia, an abundant supply of copper ore. This copper slate is found at the bottom of the new red sandstone formation, which overlies the bituminous coal formation; and copper ores have been found in the carboniferous and mountain limestone. There is therefore, a possibility of discovering workable copper ore in the formations of Indiana.

The fertility of the soil of Indiana is universally admitted, yet few are aware that it arises mainly from its geological position. It is well known to geologists, that that soil is the most productive, which has been derived from the destruction of the greatest variety of different rocks; for thus only is produced the due mixture of gravel, sand, clay, and limestone, necessary to form a good medium for the retension and transmission of the nutrative fluids, be they liquid or aeriform, to the roots of plants. Now, Indiana is situated near the middle of the Great Valley of Northwestern America, and far distant from the primitive

range of mountains; and her soil is accordingly formed from the destruction of a vast variety of rocks, both crystalline and sedimentary, which have been minutely divided and intimately blended together by the action of air and water, It has all the elements, therefore, of extraordinary fertility."

Michigan.—The survey of this new state is only begun. The first report, from the pen of Dr. Douglas Houghton, the principal Geologist, is comprised in 37 pages; and was made to the Legislature of Michigan, on the 22d of January last. The departments of Botany and Zoology, are confided to Dr. Abraham Sager. Our limits do not permit us to extract any thing from this document; and, indeed, the time has not yet been sufficient to develope results. We cannot, however, dismiss the subject, without bearing the testimony of our humble admiration, to the enterprise of our young sister of the north, for having so soon after puberty, passed into gestation with such an important project.

We trust that geological surveys of all the Western and Southern states, will soon be undertaken. Tennessee set the example, and Dr. Troost has been for several years, engaged in the work. Kentucky, Illinois, Missouri, and the states bordering on the Gulph, require to be aroused to action; and their physicians might contribute more than any other class of the community, to the promotion of the object—an object in which the profession has a deep interest; as the medical history of a country, can never be properly written, before its geological constitution is known.

D.

ART. XII.—MEDICAL SCHOOLS OF THE VALLEY OF THE MISSISSIPPI.

Transylvania University,	227	pupils,	64	graduates.
Cincinnati College,	125	"	23	"
Louisville Medical Institute,	80	"	24	"
Medical College of Ohio,	80	"	15	"
Willoughby University,	40	"		
Medical College of Louisiana,	25	conjectural,		
	567			

While this aggregate is within 6 or 8 of what it was for the winter of 1836-7, the addition to the Cincinnati College is 40; a

satisfactory evidence of present growth, and an encouraging guarantee for the future. Our Atlantic brethren will perceive, that the West is seriously engaged in educating her own physicians. May she aim at excellence of instruction, still more than relative increase of numbers. D.

ART. XIII.—BANDAGE FOR THE CURE OF PROLAPSUS UTERI.

Dr. Robert Thompson, of Columbus, Ohio, has invented an apparatus for the cure or palliation of *prolapsus uteri*, which we have not had an opportunity of testing, but which seems well in appearance; and, in his own practice, we are told, has answered every desirable end. It makes firm pressure around the pelvis, holds up the abdominal viscera, and supports the perinœum and vulva. The Doctor exhibited it to the late Medical Convention, at Columbus, and made such explanatory remarks, concerning its *modus operandi* and effects, as seemed to convince that body of its superior utility. D.

ART. XIV.—BRITISH JOURNALS.

We have just received our Edinburgh and London periodicals, down to the beginning of this year; but have neither time nor space for analysis in this number. The Ed. Med. and Surg. Journal, contains several elaborate articles, which, *prima facie*, are of considerable interest; such as a statistical and pathological Report on the Diseases of the Royal Infirmary, Edinburgh, for five years, by Dr. Home; Surgical Cases in the Glasgow Royal Inf., for two years, by Dr. Davidson; Cases of Hysterical Ischuria and Erratic Urination, by Dr. Laycock, Surgeon, of York Hospital; and an Expermental Investigation of the functions of the eighth pair of nerves, by Dr. Reid. These different papers will be analyzed for our July number. The last is an elaborate communication, abounding in new and original experiments.

The Lon. Med. Gaz. and the Lancet present us with the usual variety. Animal Magnetism, we find, continues to excite an interest in London, and these two weeklys are arrayed against each other on that subject, as well as many others. By the bye, Mr.

Hartshorn, of Providence, is out with new documents in support of Clairvoyance. We shall give some account of them in our next number. D.

ART. XV.—TO THE PATRONS OF THE WESTERN JOURNAL.

To Delinquent Subscribers.—The reason for advancing the subscription price of our Journal from three to four dollars, if payment be not made during the publication of the volume, is, that commissions have to be given to collectors. We greatly prefer to have the sum of three dollars, remitted by mail or otherwise, to collecting four; and are of opinion, that our subscribers ought to have the same preference. We have concluded, therefore, to extend the time within which they may remit three dollars, until they receive the present number; when we hope that *all* who are in arrears, will, respectively, enclose us that sum. Such as wish to continue patrons of the work, will please to recollect, that it will, hereafter, be sent only to those who remit their subscriptions *in advance.* When, therefore, they are transmitting subscription money for the 11th volume, it would be well to enclose a remittance of the same amount, for the 12th; the first number of which will be issued at the end of June.

Our next volume.—As the undersigned will be occupied throughout the spring, summer and autumn of the present year, in the composition of the work on the Elements of Pathology announced in this number, he will be under the necessity of withdrawing a portion of time and attention, from the Editorial duties of the Journal; leaving it in the hands of his able colleagues, professors Gross and Harrison; who will, he trusts, conduct it in such a manner as to give it new interest to every reader. He proposes, however, to insert in the July number one of the chapters of his contemplated first book of pathology, as a specimen of the work.

D.

EXTRA-LIMITES.

Art. I.—Catalogue of the Medical Department of the Cincinnati College, for 1837–8.

FACULTY.

The Rev. WILLIAM HOLMES McGUFFEY,
President of the Institution.

JOSEPH N. McDOWELL, M. D.
Professor of Special and Surgical Anatomy.

SAMUEL D. GROSS, M. D.
Professor of General and Pathological Anatomy and Physiology.

WILLARD PARKER, M. D.
Professor of Surgery.

LANDON C. RIVES, M. D.
Professor of Obstetrics and the Diseases peculiar to Women and Children.

JAMES B. ROGERS, M. D.
Professor of Chemistry, and Medical Jurisprudence, and Dean of the Faculty.

JOHN P. HARRISON, M. D.
Professor of Materia Medica and Pharmacy.

DANIEL DRAKE, M. D.
Professor of the Theory and Practice of Medicine.

CARY A. TRIMBLE, M. D.
Anatomical Demonstrator.

CATALOGUE OF STUDENTS.

THIRD SESSION.

NAMES.	RESIDENCE.	PRIVATE PRECEPTORS.
William E. Akin,	*Kentucky*,	Drs. Fleece & Weisiger.
Nathaniel S. Armstrong,	*Ohio*,	Prfs. Harrison & McDowell.
John S. Alexander,	*Kentucky*,	Prf. Gross.
B		
Julius O. Beardslee,	*Ohio*,	
Israel Brown,	*Ohio*,	Prf. Gross.
William Bobbs,	*Ohio*,	Dr. Blymiger.
Mahlon Black,	*Ohio*,	Dr. Jewett.
Littleton E. Bennett,	*Kentucky*,	Dr. Bennett.
Thomas J. Bicknell,	*Virginia*,	Dr. Tanner.
John Black,	*Alabama*,	Dr. McDonald.
James V. Boughner,	*Pennsylvania*,	Dr. Stephenson.
John W. Brookbank,	*Indiana*,	Dr. Casterline.
James A. Brown,	*Missouri*,	Prfs. Harrison & McDowell.
C		
William P. Cushman,	*Ohio*,	Dr. Colby.
Lewis H. Carey,	*Ohio*,	Dr. R. E. Lord.
Ziba Casterline,	*Indiana*,	Practitioner.
Preston Capshaw,	*Alabama*,	Dr. Malone.
Abel Carey,	*Ohio*,	Practitioner.
Erastus S. Close,	*Ohio*,	Prfs. Harrison & McDowell.
Jonathan W. Coffee,	*Ohio*,	Dr. Fisher.
Benjamin F. Crittenden,	*Alabama*,	Prfs. Harrison & McDowell.
Thomas W. Colescott,	*Indiana*,	Dr. Haymond.
James M. Conduitt,	*Illinois*,	Dr. Conduitt.
D		
Eli Dayton,	*Ohio*,	Prfs. McDowell & Harrison.
John Dawson,	*Ohio*,	Dr. Winmans.
Edwin H. Davis,	*Ohio*,	Practitioner.
Alexander Dunlap,	*Ohio*,	Drs. McCaraugh & Dunlap.
Benjamin Dennis,	*Mississippi*,	Resident Graduate.
E		
John E. Ely,	*Ohio*,	Prf. Gross.
David M. Elliott,	*Ohio*,	Dr. Brower.
Peter M. Enders,	*Kentucky*,	Prf. Gross.
Jacob P. Epperson,	*Alabama*,	Prfs. Harrison & McDowell.
John Evans,	*Ohio*,	Dr. Fisher.
Thomas Edwards,	*Alabama*,	Dr. Crook.
F		
Benjamin W. Foster,	*Ohio*,	
Roderick C. Fox,	*Ohio*,	Dr. Dodge.
George F. Foot,	*Ohio*,	Dr. Howard.
Carey H. Fry,	*Kentucky*,	Dr. Fry.
Seth W. Fuller,	*Ohio*,	Dr. Cotton.
William M. Finley,	*Tennessee*,	Dr. McCorkle.

G

Edward O. Goodwyn,	*Virginia*,	Hrfs. Harrison & McDowell.
Daniel Grosvenor	*New England*,	
Jonathan P. Grosvenor,	*New England*,	
John Groff, M. D.	*Ohio*,	
Charles P. Gage, M. D.	*Ohio*,	
Elias Garst,	*Ohio*,	Prfs. Harrison & McDowell.
John H. Grant,	*Kentucky*,	Prf. Gross.
Tarleton W. Graves,	*Virginia*,	Practitioner.

H

Robert C. Hamill,	*Ohio*,	Dr. Templeton.
Ambrose W. Henley,	*Ohio*,	Dr. McGuire.
Samuel W. Hankin,	*Tennessee*,	
Edmund Harrell,	*Indiana*,	Prfs. Harrison & McDowell.
William J. P. Haughton,	*Alabama*,	Prf. Gross.
James T. Houston,	*Ohio*,	Prfs. Harrison & McDowell.
Elijah M. Hussey,	*Alabama*,	Prfs. Harrison & McDowell.
Anson G. Henry,	*Illinois*,	Practitioner.

J

John B. Jewett,	*Ohio*,	Practitioner.
Eli B. Jewett,	*Ohio*,	Practitioner.
Benjamin W. Johnson,	*Ohio*,	

K

Charles L. Kendall,	*Ohio*,	
Edward Kimball,	*Ohio*,	Prfs. McDowell & Harrison.
Robert Kincaid,	*Ohio*,	
John C. Kirkpatrick,	*Tennessee*,	Dr. McCorkle.

L

Morgan H. Litzenburg,	*Ohio*,	Dr. Russell.
George Light,	*Ohio*,	Prfs. Harrison & McDowell.
Charles C. Little,	*Ohio*,	Dr. Hastings.

M

Robert Morehead Mines,	*Ohio*,	Prfs. Harrison & McDowell.
Francis McCrackin,	*Ohio*,	Prfs. Harrison & McDowell.
Robert R. McIlwayne,	*Ohio*,	Prfs. Harrison & McDowell.
James W. McCrady,	*Pennsyivania*,	Dr. Wylie,
Joseph L. McCay,	*Pennsylvania*,	Dr. Culbertson.
Robert Merrill, Jr.	*Ohio*,	
C. V. McMillen,	*Ohio*,	Dr. Robertson.
William H. H. B. Minor,	*Ohio*,	Dr. Paramore.
James R. Mershon,	*Ohio*,	
Jacob P. Morris,	*Kentucky*,	Dr. J. Mines.
Wm. M. Maxwell, M. D.	*Virginia*,	
Robert McJimsey,	*Mississippi*,	Drs. Pasley & Huggins.
Franklin J. Malone,	*Alabama*,	Prfs. Harrison & McDowell.
Jonathan McDonald,	*Alabama*,	Practitioner.
John McNeill,	*Alabama*,	Practitioner.
Eli T. Mendenhall,	*Alabama*,	Dr. Smith.

N

Israel T. Nicklin,	*Virginia*,	Practitioner.
Allen T. Noe,	*Kentucky*,	Dr. Bowling.

P

John W. Pickett,	*Ohio*,	
Henry Pearce,	*Ohio*,	Prfs. Harrison & McDowell.
William Peyton,	*Kentucky*,	Prfs. Harrison & McDowell.
Alexander A. Patteson,	*Kentucky*,	Dr. Marshall.
John Parkes,	*Virginia*,	Prof. Rives.
Charles A. Pope,	*Alabama*,	Drs. Fearn & Erskine.
James A. L. Purdom,	*Alabama*,	Drs. Fearn & Erskine.
William J. Peck,	*Indiana*,	Prfs. Harrison & McDowell.
Ferdinand S. Petway,	*Tennessee*,	Dr. McKinney.
Alexander H. Petit,	*Mississippi*,	Practitioner.

R

Townsend Ryan,	*Ohio*,	
Sanderson H. Rodgers,	*Ohio*,	Dr. Dodge.
Joseph Redhead,	*Ohio*,	Prof. Gross.
Richard C. Ratcliff,	*Alabama*,	Dr. Sterritt.
Samuel Reed,	*Indiana*,	Dr. Reed.
Pleasant B. Robinson,	*Alabama*,	Dr. Malone.

S

John B. Smith,	*Ohio*	Dr. Riddell.
Robert B. Scott,	*Mississippi*,	Prfs. Harrison & McDowell.
Samuel M. Smith,	*Indiana*,	Dr. Morrison,
John C. Spotswood,	*Alabama*,	Practitioner.
Edward A. Scruggs,	*Alabama*,	Drs. Fearn & Erskine.
Julias Sharp,	*Ohio*,	Dr. Sams.
William Smith,	*New York*,	

T

David L. Talbott,	*Ohio*,	Prfs. Harrison & McDowell.
Francis W. Todd,	*Illinois*,	Prfs. Harrison & McDowell.
John W. Tucker,	*Ohio*,	Dr. Peck.
Norton S. Townshend,	*Ohio*,	Dr. Howard.
Benjamin Thornton,	*Kentucky*,	Dr. Lindsay.

V

Isaac Van Eaton.	*Ohio.*	Prfs. Harrison & McDowell.

W

David Wilson,	*Ohio*,	Dr. Dodge.
Benjamin W. Wood,	*Kentucky*,	Dr. Marshall.
Madison Williams,	*Kentucky*,	Dr. Roberts.
Madison G. Walker,	*Indiana*,	Dr. Richmond.
James W. Wilson,	*Indiana*,	Dr. Jennings.
Wilkins Watson,	*Illinois*,	Practitioner.
Isaac H. Wright,	*Kentucky*,	Dr. S. K. Sharp.
Francis A. Williamson,	*N. Carolina*,	Dr. Tresvant.
Oliver M. Wozencraft,	*Tennessee*,	Prfs. Harrison & McDowell.

Y

Phillip Young, Jr.	*Ohio*,	Dr. Gross.
William H. Yarbrough,	*Alabama*,	Prfs. Harrison & McDowell.
John A. Young,	*Ohio*,	Dr. Martin.

RECAPITULATION.

Ohio,	57	Alabama,	18
Kentucky,	14	Indiana,	9
Tenessee,	5	Virginia,	6
Pennsylvania,	3	Illinois,	4
Mississippi,	4	New England,	2
Missouri,	1	New York	1
North Carolina,	1		
		Total,	125

GRADUATES.

At the third annual Commencement, holden on March 3d, 1838, the Degree of Doctor of Medicine was conferred on the following gentlemen:

OHIO.

Abel Carey, Thesis on Scarlet Fever.
Erastus S. Close, on Blood letting.
Edwin H. Davis, on Electricity as a cause of Epidemics.
Eli Dayton, on Blood letting.
John Evans, on Medullary Sarcoma.
Elias Garst, on Acute Gastritis.
John B. Jewett, on the Blood.
Edward Kimball, on Arachnitis.
Joseph Redhead, on Lesions of the Pleura.
John A. Young, on the relations of the nervous and vascular systems in Intermittent Fever.

ALABAMA.

William J. P. Haughton, Thesis on the General and Pathological Anatomy of the Arteries.
John McNeill, on Marsh Miasmita.
Jonathan McDonald, on External Local Irritants.
John C. Spotswood, on Leucorrhœa.

KENTUCKY.

John S. Alexander, on the Morbid Anatomy of the Intestinal Mucous Membrance.
John H. Grant, on the Pathological Anatomy, and treatment of Tubercular Consumption.
William Peyton, on Inflammation.

ILLINOIS.

Anson G. Henry, on the Diseases of Sangamon Co. Illinois.
F. Walter Todd, on the Milk Sickness.
Wilkins Watson, on Gonorrhœa.

INDIANA.

Ziba Casterline, on Amenorrhœa.
Thomas W. Colescott, on a recent Epidemic fever at Brookville, Indiana.

MISSISSIPPI.

Alexander H. Petit, on Miasmata.

The Honorary Degree of Doctor of Medicine was likewise conferred on *Samuel Parsons*, of Columbus, and *Daniel Milliken*, of Hamilton, in the state of Ohio.

JAMES B. ROGERS, *Dean.*

INFORMATION TO STUDENTS OF MEDICINE.

The session formally opens on the last Monday of October, annually, and closes on the day preceding the public commencement in March, but DISSECTIONS, under the direction of Dr. Trimble and a preliminary course of OSTEOLOGY, by Professor McDowell, commence on the first Monday of October without any additional charge. Six Lectures are delivered daily, to the end of February, when the number is reduced to four, and the examinations commence. An hour every other day is devoted by the Professors of the PRACTICE of PHYSIC and of SURGERY, to the study of cases in the *Marine Hospital*, and the *Cincinnati Eye Infirmary*. All who intend to graduate, are required to take the Dissecting ticket once, and the Hospital ticket once—the latter in the graduating session. It is optional with the student to take or omit the Library ticket. The price of the ticket of each Professor is $15—Matriculation $2—Dissections $10—Hospital $5—Library $3—Graduation $20. Two full courses, the last in this institution, or four years practice and one course, are necessary to an examination for a degree. A candidate must register his name with the Dean by the first of February, and hand in his Thesis by the 20th of that month. The examinations commence on the 1st of March, and the public Commencement is held as soon as they are concluded.

The purchases of Professor Parker in Europe, and of Professor Rogers in Baltimore and Philadelphia, during the past year, have greatly extended the APPARATUS, MUSEUM, and LIBRARY of the institution.

SUMMER INSTRUCTION.

At the close of the session, the rooms for Practical Anatomy are reopened by the *Demonstrator*, and kept open for a month. Students are likewise admitted to the practice in the Hospital, which is visited every morning at 8 o'clock, by two of the Professors. Lectures will be delivered daily in the College edifice, opposite the Hospital, from the end of the prescribing hour till 11 o'clock. Price of the ticket to both, $10.

The Library embraces 1300 volumes: the ticket to which, for the eight months vacation, is $5.

Comfortable boarding and lodging may be had at from $2,50 to $3,50 per week.

JAMES B. ROGERS,
Dean of the Faculty.

CINCINNATI COLLEGE, March, 3d, 1838.

ART. II.—PROCEEDINGS IN THE LEGISLATURE OF OHIO ON THE MEDICAL COLLEGE OF OHIO.

We give two Reports, by a Standing Committee of our Legislature on this Institution. The Committee is composed of five members, two of whom, we are informed, were in favor of one report, and two of the other—one taking part in neither. The first, however, is called the majority report, because, as we presume, it was made by the Chairman of the Committee. At this date, March 17th, when we are obliged to send the reports to our

printer, we have not heard what action the General Assembly has had upon them. We present them to our readers, without note or comment.

Mr. Bronson, from the Committee on Medical Colleges and Medical Societies, made the following Report:

The committee on Medical Societies to whom was referred the report of the Trustees of the Ohio Medical College, with instructions to inquire into "the causes if any, which have retarted its progress or limited its usefulness as a public institution," have had the same under consideration, and now Report:

The resolution of instruction does not limit the investigation of the committee to any particular period of time, and it has been deemed proper to embrace a period somewhat remote. In doing so, however, the committee has thought proper to refer to information furnished the Legislature in the winter of 1833–4, as being the best and most conclusive within their reach. During the preceding session of the Legislature, various charges had been seriously preferred, and many *calumnies*, as your committee believe, circulated against the Ohio Medical College, its faculty and board of Trustees. With a view to ascertain the correctness of these charges, a select committee was appointed, clothed with power to send for persons and papers, and after a full, tedious and patient examination of witnesses on the various charges made, as stated above, both on the part of the prosecutor and the College, the committee paesented its report, accompanied with a large mass of written evidence.

This report, together with the testimony accompanying it was made out during the summer of 1833, and transmitted to the Legislature the following winter, when it was referred to an appropriate committee.—The large mass of testimony was carefully examined and arranged, and presented to the Senate in a report from the committee, through their chairman, Judge Hitchcock. To those who feel an interest in this matter, either personally, professionally, or as members of the Legislature, the committee would recommend the above report as containing a large amount of interesting evidence, and conclusive reasoning in a small compass. The report concludes in this language: "Taking into consideration all the circumstances, the committee believe that no further Legislative action is necessary;" and after asking to be discharged from the further consideration of the subject, a vote was taken upon agreeing to the report, and carried with but one dissenting voice.—From an examination of this report and the decision upon it, the committee cannot but conclude that the injurious charges made against the Ohio Medical College, up to the period when the above report was presented to the Senate, were altogether groundless.

The condition of the school during the last three years, cannot be ascertained satisfactorily, except by the means of the annual reports of the board of Trustees. Their last annual report contains a candid and satisfactory statement of the causes, which led to the vacation of several of the chairs in the Ohio Medical College, during the summer of 1837. The school had obtained the confidence of a widely extended

profession; the number of Students had largely augmented, with the most flattering prospect of a continued increase, when, from motives, into which it is not proper to inquire, large sums were offered for the services of some of the Professors, and they were withdrawn to chairs in other rival institutions. The condition into which the Ohio College was thrown by these changes, could not but for a time operate to the injury of the institution. Changes in the Faculty or in the Trustees of such institutions, unless morally or intellectually disqualified, have always had a pernicious influence. In the one case, all aspirants cannot be satisfied, and it is unnecessary to say in what direction disappointed ambition, is most likely to direct its influence. In the other case, there is apt to be an angry and unprofitable struggle, to elect such men as would be most likely to advance particular interests.

Frequent legislation respecting the condition of a public institution, especially when it directs an inquiry similar to th one contained in the resolution upon which this report is founded, is always more or less injurious. It does not require the direct charge of guilt, to fix suspicion either upon the character of an individual, or upon that of a public institution. Many will draw an unfavorable inference from a mere hint that an investigation is necessary, while it will afford assistance to those who may be cherishing designs toward either.

Medical Colleges can only be successfully conducted and sustained in large cities, where students can have an opportunity of witnessing hospital practice and surgical operations. Anatomy cannot be correctly taught, without subjects; chemistry, without a laboratory; surgery, without living subjects, nor the theory and practice of medicine, without an extensive hospital. Cincinnati, your committee believe, combines all these advantages, and to remove the institution from its present location to one in which few, if any, of the above advantages could be enjoyed, would be little less than destruction; and to inspire a belief that such a removal is contemplated, by a mere agitation of the question, is not likely to establish confidence in the stability of the institution.

Connected with the Ohio Medical College is a hospital, in which are constantly found from one to two hundred patients. These patients receive the professional attendance of the Faculty of the Medical College, who are thereby enabled to present to students, cases of a vast number, if not all, the diseases which they may be called upon to treat; and many important surgical operations have recently been performed by Professor Murphy, before the present class. Both the Medical and Surgical departments are at present so well conducted as to induce many who are possessed of means to defray their own expenses, to enter the hospital and solicit professional attendance in that place, in preference to seeking aid from other sources. These, added to the sick who are provided for by the county of Hamilton and city of Cincinnati, and the sick boatmen who are supported by the General Government, will always furnish a numerous and increasing supply of patients.

Unfavorable as were the circumstances under which the last session of the College was commenced, the efforts of the professors have been such as to give satisfaction to an intelligent class of students, and to in-

spire the friends of the institution with high hopes for the future At a meeting of the class, as the recent course was approaching its close, the following resolution was unanimously adopted:

"*Resolved*, That we tender our grateful acknowledgments to the honorable and able faculty of this institution, for the interest they have taken in exhibiting to us clearly the various subjects connected with medical science. We beg leave to express our earnest desire that their administration of its affairs may be continued so long as it may be found for their interest and pleasure."

As far as the committee are enabled to gather information from among those who have been familiar with the history of the Ohio Medical College, it is their opinion, that as respects stability and usefulness, it was never in a more flattering condition than at the present time. The Faculty are harmonious in feeling and action, and in their determination to advance the character and usefulness of the institution. It is now, as your committee believe, in a healthful and prosperous condition, and there is no reasonable ground to fear that such condition will not continue.

In conclusion, the committee would barely observe, that the Ohio Medical College not only deserves the confidence, but the protection of the Representatives of the people, and we believe the time is not far distant, when she will assume a position but little, if any, behind the best Medical institutions in the Union. The Legislature would doubtless be no less willing to favor this event than it should be our pleasure and pride to indulge in its anticipation.

Not deeming it necessary to engage in any additional legislation, the committee ask to be discharged from the further consideration of the subject."

March 8. —

"Mr. PERKINS, from the Standing Committee on Medical Colleges and Medical Societies, made the following Report:

A minority of the Standing Committee on Medical Colleges and Medical Societies, to which was referred the annual report of the trustees of the Medical College of Ohio, with instructions to inquire into the causes which retard its prosperity, have, as far as practicable in the time, and from the means within their reach, discharged the duty enjoined upon them, and beg leave to submit the following report and resolutions:

The Medical College of Ohio was chartered in the year 1819, and went into operation in the year 1820. There are no vested rights connected with it; the Board of Trustees are appointed from time to time by the General Assembly, and they are the corporators; none of its property has been derived from private individuals; the funds vested in it are those of the State, derived from auction duties in the city of Cincinnati. It was established by the Legislature, to aid the young men of Ohio in acquiring a medical education, and, in all respects, may be placed in the same class of State institutions with the school for the blind, or for the deaf and dumb. Its charter has been several times

modified, at the pleasure of successive General Assemblies, and once an elaborate inquiry, by a Board of Commissioners, into its condition, was ordered and made; and finally, it is the duty of its trustees to make an annual report to the Legislature on the manner in which they have conducted the affairs of the institution, and on its actual condition.

Thus, it appears, that this corporation is in all respects a State institution, and may, at the pleasure of the General Assembly, be modified, removed, or dissolved.

By a reference to the long series of annual reports made to the General Assembly, the minority of your committee find that between 35,000 and 40,000 dollars, of the auction duties collected in Cincinnati, have been given to the College, and that this sum has been appropriated to the erection of an edifice, and the purchase of books and apparatus required in medical instruction. Thus, the State has discharged her duty towards the institution with liberality. But the same reference shows that the classes of the College, with the exception of two or three sessions, have always been small, and that the number this winter is not greater than it was ten years ago. Within the above period, the trustees have felt themselves called upon to make several re-organizations of the faculty, being embarrassed by many external and internal difficulties; and that within the last seven years, no less than fifteen different gentlemen have held professorships in it, and during the last summer, four out of six of its professors, embracing some of its oldest and ablest, without any obvious cause, resigned their places, and entered three other institutions.

One of the chairs has not yet been permanently filled, (unless done recently,) and others are filled by gentlemen residing at a distance from the institution, several of them having just entered upon their career as medical teachers, are not generally known as such, though highly respectable in private practice; hence, the attractions which the institution can exert for some years to come, must necessarily be less than it has exerted heretofore. At the same time, it has become known to your committee, that the Cincinnati College, "gotten up," as they are informed, by more than 600 contributors of that city, has established a medical, in connexion with its law and academical departments, which has a faculty of seven professors, all resident in the city, and a class of 125 pupils, or more than 50 per cent. greater than that of the Medical College of Ohio.

Under all these circumstances, the committee are of opinion that it is no longer expedient for the State to embarrass herself with the support and management of a Medical institution in that city. They believe, however, that, as moneys vested in the establishment were derived from the auction sales of the city, there would be a propriety in securing to it the advantages of its own appropriation, provided the object of education be still kept in view. Under this feeling, the committee have reflected on the new disposition which might be advantageously made of the money vested in the Medical School of the State, and have come to the following conclusion:

The Ohio Mechanics Institute, chartered several years ago, for the promotion of those mechanic arts and the branches of science connected

with them, on which the prosperity of our State so vitally depends has languished for the want of a suitable edifice in which instruction could be delivered, and the products of the mechanical ingenuity of the citizens of the State, be arranged for public inspection. To this valuable school of the useful arts, the committee are of opinion, the edifice now occupied by the Medical College, should be conveyed: and with it such books and pieces of apparatus, as are especially calculated to illustrate those branches of science which it is the object of the Institote to promote. The remainder of the library, apparatus and preparations, should then, in the opinion of the committee, be turned over to the trustees of the Cincinnati College, in trust, for the benefit of its Medical Department.

By this disposition of the property of the Medical College, the State would be relieved from further responsibility, the interest of medical education would be secured, and a school for the higher mechanic arts, of incalculable value to the State, be founded and endowed in such manner as would render it comprehensive, prosperous and permanent.

In pursuance of these views, the committee ask leave to offer for adoption the following resolutions:

Resolved by the General Assembly of the State of Ohio, That it shall be the duty of the Trustees of the Medical College of Ohio, forthwith, to convey in fee simple to the Ohio Mechanics Institute, the public edifice of the corporation, with the grounds pertaining to the same, in the city of Cincinnati, on the condition, that it shall never, without the consent of the Legislature, be diverted from the objects for which said Institute was incorporated.

Resolved, That said Trustees shall deliver to the managers of said Institute, such books now in the College Library, as relates to the Science of Natural Philosophy, and the Mechanic Arts; and such portions of the apparatus of said College as may be designed to illustrate those branches of human knowledge.

Resolved, That all the remaining books, chemical apparatus, preparations, drawings, and other means adapted to medical inttruotion in its various branches, shall by them be delivered to the Trustees of the Cincinnati College, for the use and benefit of the Medical Department of that Institution, on the condition, that should they, at any time discontinue said Department, the whole shall revert to the State.

Resolved, That the duties and priviliges now by law assigned to the Professors of the Medical College of Ohio, in the Commercial Hospital and Lunatic Asylum in the city of Cincinnati, shall hereafter be performed by the Medical Professors of the Cincinnati College.

Resolved, That the Secretary of State shall, and he is hereby directed, to transmit a certified copy of these resolutions, to the President of the Board of Trustees of the Medical College of Ohio.

BIBLIOGRAPHICAL RECORD;

OR, QUARTERLY LIST OF NEW PUBLICATIONS IN MEDICINE AND SURGERY, AND THEIR ASSOCIATE SCIENCES.*

AMERICAN.

1. Introductory Lecture to a Course of Surgery, delivered in the Chemical Hall of the Washington Medical College of Baltimore. By John W. Dunbar, M. D. Professor of Surgery, and Surgeon to the College Hospital.—Baltimore: 1837.

2. A Clinical Lecture on the Primary Treatment of Injuries, delivered at the New York Hospital. By Alexander Stevens, M. D. Surgeon to the New York Hospital and emeritus Professor of Clinical Surgery. New York: 1837.

3. Practical Elocution; designed for the promotion of health, the cure of Stammering, &c. By Andrew Comstock, M. D. Philadelphia: 1837.

4. Lecture Introductory to the course on Pathology and Practice of Medicine in the University of Virginia. By R. E. Griffith, M. D. Charlottesville: 1837.

5. Introductory Lecture to the course of the Institutes of Medicine, in the University of Pennsylvania. By S. Jackson, M. D. Philadelphia: 1837.

6. The Philadelphia Practice of Midwifery. By Charles D. Meigs, M. D. Member of the American Philosophical Society. 12mo. pp.370. Philadelphia: 1838.

7. An Elementary Treatise on Midwifery, or Principles of Tokology and Embryology. By Alf. A. L. M. Velpeau, M. D. &c. Translated from the French by Ch. D. Meigs, M. D. Second Edition. 8vo. Philadelphia: 1838.

BRITISH.

1. Memoirs on the Nerves. By Marshall Hall, M. D. F. R. S. L. & E. 4to. With Plates. London: 1837.

2. On the Nature and Treatment of Diseases of the Heart; with some new views on the Physiology of the Circulation. By James Wardrop, M. D. 8vo. pp. 126. Part 1. Four Plates. London: 1837.

3. The Physician's Vade-Mecum; or Manual of the Principles and Practice of Physic. By Robert Hooper, M. D. New Edition, considerably Enlarged and Improved. By Michael Ryan M. D. 8vo. pp. 417. London: 1837.

4. An Experimental Essay on the Relative Physiological and Medicinal Properties of Iodine and its compounds. By Charles Cogswell, M. D, 8vo. pp. 179. Edinburgh: 1837.

We would respectfully suggest to the authors of new works, the propriety of forwarding us copies, as soon after their publication as practicable. By so doing, they will alwayssecure for them an early notice in our record. As things are now conducted, many of the eastern books never reach us until they are six or twelve months old.

5. First Principles of Medicine. By Archibald Billing, M. D. Second Edition. 8vo. pp. 130. London: 1837.

6. An Essay on Pyrexia, or Symtomatic Fever, as Illustrative of the Nature of Fever in General. By H. Clutterbuck, M. D. 8vo. pp. 136. London: 1837.

7. A Medico-Legal Treatise on Homicide by External Violence; with an account of the Circumstances which modify the Medico-Legal characters of Injuries and Exculpatory Pleas. By Alexander Watson, Esqr. Fellow of the Royal College of Surgeons. 8vo. pp. 355. Edinburgh: 1837.

8. On a New Mode of Treatment Employed in the Cure of Various Forms of Ulcer and Granulating Wounds. By F. C. S. Key, F. R. S. 8vo. pp. 85. London: 1837.

9. The Philosophy of the Eye; being a Familiar Exposition of its Mechanism and of the Phenomenon of Vision, with a view to the Evidence of Design. By John Walker, M. D. Lecturer on the Eye in the Manchester School of Medicine. With numerous Illustrations. 8vo. pp. 300. London: 1837.

10. Observation on the Topography, Climate, and Prevalent Diseases of the Island of Jersey; the Result of Meteorological Observations and General Practice during thirteen years. By G. S. Hooper, M. D. 8vo. pp. 199. London. 1837.

11. A Treatise on the Influenza of 1837; containing an analysis of 100 cases observed at Birmingham. By Payton Blakiston, M. A. 8vo. pp. 60. London: 1837.

12. An Exposition of the Signs and Symptoms of Pregnancy, the Period of Human Gestation, and the Signs of Delivery. By W. F. Montgomery, A. M. M. D. 8vo. London: 1837.

13. An Essay on the Classification of the Insane. By M. Allen, M. D. 8vo. pp. 208, with an appendix. London: 1837.

14. The Theory of Repulsion Examined in a series of Experiments. By Charles Hales, M. D. 8vo. pp. 22. London: 1837.

15. A Manual of Percussion and Anscultation. By Dr. Spillan. 8vo. London: 1837.

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